



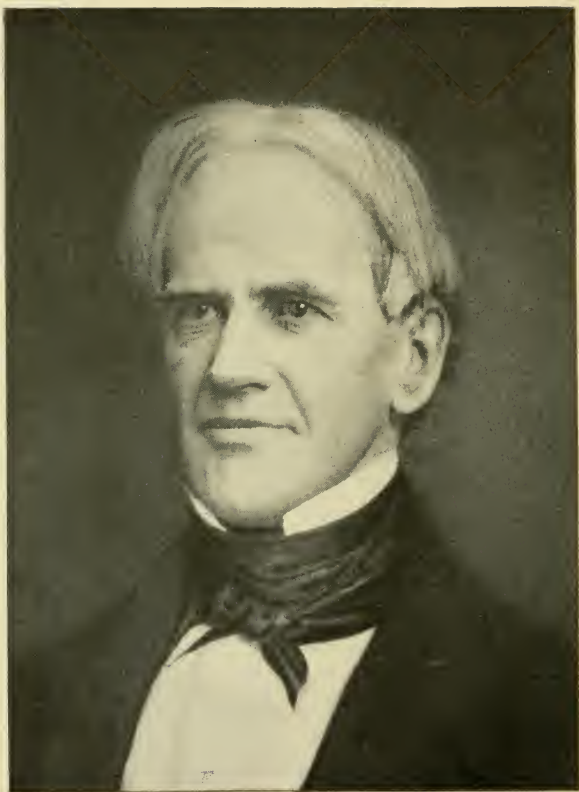
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HORACE MANN

FUNDAMENTALS IN ELEMENTARY EDUCATION

BY

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CHARLES E. MERRILL COMPANY
NEW YORK CHICAGO

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This book is dedicated, reverently, to the memory
of Horace Mann, prophet and pioneer in
elementary education.

PREFACE

THE subject matter of this book is a direct outgrowth of the experiences of the Department of Education in the State Normal School at Warrensburg, Missouri, in giving courses in Education to beginners in that subject. During the ten years of the experiment, the major portion of the material has been tried out in more than one hundred fifty classes, taught by well-trained teachers. The book is designed primarily for students in Teacher-training Classes in Education in high schools, and in Elementary Courses in normal schools; and it is well adapted to Teachers' Reading Circles. It might well be used as an Introductory Course in Education in colleges or in College Courses in normal schools.

The author has tried to keep in the foreground the function of the elementary school as the greatest single agency in a democracy for the education of its children, and, while no effort has been made to exhaust the topics concerning elementary schools, an attempt has been made to discuss the fundamental ones with considerable detail and thoroughness. Practically all of the "Problems" presented at the end of each chapter may be answered from the subject matter contained in the text, and the experiences of the teacher and students. The selected readings are intended chiefly for supplementary purposes, and for those students who have access to a good library.

It is needless to state that the writer claims no large degree of originality for the volume, because he has drawn freely upon pedagogical literature as it relates to the elementary school.

The author is under obligations to Messrs. C. B. Hudson

PREFACE

and C. A. McPheeters and Misses Walker and Humphreys, of the Department of Education in the State Normal School at Warrensburg, Missouri, who have criticised, constructively, the manuscript and helped to formulate problems for study. He is especially indebted to Miss Humphreys for a detailed criticism of the technique of the chapters. Mr. C. F. Martin of the Department of English has offered a number of valuable criticisms on certain chapters. President E. L. Hendricks has read all the manuscript and proof, offering helpful suggestions and criticism. There are many other obligations—not of a personal nature—which have been acknowledged either by foot notes or in the body of the text.

C. A. P.

Warrensburg, Missouri.
February, 1916.

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FUNDAMENTALS IN ELEMENTARY EDUCATION

CHAPTER I.

THE STATE AND EDUCATION.

State Control of Education.—One of the characteristic developments of modern civilization is the increased control of the state over institutional activities, the single exception being that of the church. There has been a steady increase in the control of the state over educational institutions for more than three centuries, but the increase has been most marked in the last half century. State dominance has been fostered by the growing spirit of democracy; for the people have sought, through the state, to secure equal rights, privileges, and opportunities by means of the development of the system of public education.

The public schools have become the means by which modern states develop their nationalization. It was in this spirit that the Pestalozzian pedagogy was adopted in order to rehabilitate Germany after the Napoleonic wars. Fichte, the great German philosopher, prophesied that Germany would become supreme through the adoption of the principles of Pestalozzi, and history records the fulfillment of the prophecy, for Germany completely crushed France in the Franco-Prussian war. All modern nations now

appreciate that a good system of education is a national asset which has its ramifications in all the economic, political, religious, and social life of a people.

In America there has been but little national control; though it was pointed out by the founders of the Republic that education was of supreme importance for the perpetuity and well-being of the state. Washington was interested in the problems of education and was concerned with the founding of a national university. Hamilton laid the basis for the New York school system, and both Madison and Jefferson interested themselves in education for Virginia. Jefferson laid out in detail a plan for a state system of education including elementary schools and district high schools which would prepare pupils for the University of Virginia.

One hindrance to educational progress in America is our fundamental notion that centralization is dangerous even in the separate states. Local autonomy has been considered essential for the welfare of democracy and, unfortunately, we have applied the principle of local autonomy to the school as an institution, when, as a matter of fact, it would have been better to restrict its application to civic and political affairs. The "Bogie man" of centralization is still feared in nearly every state of the Union, though to a lesser degree as affecting elementary schools than in the control of high schools and special technical schools.

The Functions of the State.—The functions of the state in relation to education may be summed up as follows: 1. The state should support education in order to secure the safety and welfare of the group, to perpetuate the institutions which society

has evolved, and to provide for the change and improvement necessary in a growing democracy. 2. The state must demand that education be carried on so as to secure the largest measure of individual development, so that the potential powers and possibilities of all the people may be discovered and utilized. 3. The state must train its people to meet the intense vocational and industrial competition incident to modern civilization. 4. The state must take an intelligent interest in education in order to prevent unsocial and anti-social forms of instruction.

Types of State Control. — Broadly speaking there are three possible types of state educational control: 1. The state may, without giving any support whatever, pass educational laws or in other ways direct educational matters. 2. The state may regulate and at the same time give partial or complete support to the system of education. This is the stage in which we now find most states of the American Union. 3. The state may impose, absolutely, certain educational requirements and restrictions; as, for example, laws in which attendance, length of term, and curriculum are completely prescribed. In addition to the above the principle is now well recognized that the state may provide special schools; such as elementary schools for delinquents or defectives, high schools where the community has not provided them, and many vocational and industrial schools.

Aims of Education in a Democracy. — Education in a democracy should be recognized as a social force, because its aim is primarily to secure social welfare and betterment; and this aim should not be construed to imply any marked restraint of individual develop-

ment, except in so far as this would prove detrimental to social progress. A recent writer¹ has said, "Public education aims to preserve, improve, and transmit the specific resources of society—to develop in every individual general and social efficiency. General Social Efficiency means social intelligence and the power to deal effectively with social problems. Special Social Efficiency means vocational efficiency; efficiency in a particular calling."

It should be the aim of education to train citizens to understand and appreciate the common good, to make them capable of self direction and self restraint, and to cause them to know how to work and play without being unfair to themselves or their fellows.

PROBLEMS FOR STUDY.

1. Tell something about the work of Pestalozzi. For what ideals did he stand?
2. Why have we no national system of education?
3. What should be the character of a national university?
4. Show how the state controls in matters of public utilities, *e.g.*, railroads, banks, insurance, etc. Should this control be exercised in matters of education? Why?
5. What are the advantages and disadvantages of having the state inspect all classes of schools?
6. State the various forms of education provided in your own state.
7. State the social-efficiency aim of education as advocated by Bagley in his *Educative Process*.
8. What is meant by the development of moral character as the aim of education?
9. Discuss "citizenship" as an aim in education.

¹ Hanus: *School Efficiency—A Constructive Study*.

READINGS.

Bagley: *The Educative Process*, Chap. III.

Cubberley: *State and County Educational Reorganization*.

Dutton and Snedden: *The Administration of Public Education in the United States*, Chap. I. to IV.

Hanus: *School Efficiency—A Constructive Study*, Chap. I. and II.

Hanus: *Educational Aims and Educational Values*, Chap. I. and II.

Hollister: *The Administration of Education in a Democracy*, Chap. I. to VI.

King: *Education for Social Efficiency*.

McMurray: *The Elements of General Methods*, Chap. I.

Spencer: *Education*, Chap. I. and II.

CHAPTER II.

SYSTEMS OF SCHOOL ADMINISTRATION.

A BRIEF discussion of the various types and forms of school organization from an administrative point of view will assist the student of present-day schools to come to some understanding of the administrative problem. These forms or types are: 1. District systems. 2. Town or Township systems. 3. County systems. 4. State systems.

1. District Systems.—In nearly all the colonies and states, some form of the district system was used. In New England there are one or two exceptions, as Massachusetts and Connecticut. As early as 1642 the general court of elections in Massachusetts made provision for a school in each town, but, in general, the “common” school was a community enterprise which was undertaken on the initiative of the wide-awake and progressive citizens. Later, when legal sanction was granted by legislative enactment or by the county court, the district was made only large enough to include certain families or cliques; no thought was given to area or property valuation. The state gave little or no attention to these organizations. Commonly, permission was granted to tax and to construct buildings, and later these school districts became corporate bodies. Under such conditions, the school was as “good” or as “bad” as the community wanted it to be. At present twenty-one out of forty-eight states are laboring under the district system.

Advantages. — The chief argument for the small district unit is that it keeps the school close to the people and is, therefore, more democratic. It tends to foster local pride in the school.

Disadvantages. — Its disadvantages are numerous. 1. Inequalities of district valuation of property make inequality of educational opportunities. 2. It is an unfair taxation scheme because two neighbors may pay different rates with no guarantee that the one paying the higher rate will have the better school. 3. It involves a cumbersome administrative plan. Often a full board of directors supervises a one-room school and a single teacher. Under this system, in some states there are as many as thirty thousand school directors. In short, district organization is out of date, unfair, and uneconomical; it should be merged into some larger unit as rapidly as possible.

2. The Township System. — The town or township was the first basis for school organization in some of the New England colonies. The best type of township organization is possibly to be found in Indiana, where there is but one township trustee, who is elected by the people, and whose business it is to supervise the management of all the schools in the township. It is his duty to see that elementary schools are properly conducted in each local district into which the township has been subdivided and that there is at least one high school for each township. The township trustee is not responsible for the management of the schools in the incorporated towns and villages. Thirteen states have some form of the township, town, or magisterial unit. The magisterial district, which is used in Virginia, for instance, includes only part of the county. There is a district

board which has control over all the schools in the district and there may be from ten to fifty schools under this board's control. A town of five hundred or more inhabitants may be a separate school district.

Advantages. — The township system tends to equalize the burdens of taxation and to offer equal opportunity to the children of the territory. It lessens the possibilities of local favoritism. It tends to promote permanent tenure of teachers. It provides a more economic and efficient scheme of administration.

Disadvantages. — The township system has some drawbacks. The area is not large enough to insure equal school privileges to the children throughout the state, because of the unequal distribution of wealth as among various communities. Township lines do not necessarily run in such a way as to make them suitable division lines for school units. On the whole, however, the states having good township organizations are fairly well satisfied with them.

3. The County System. — The county system of administration is now used in some form in most of the states of the Union, but its organization is complete in only thirteen states. The best examples of the county type of administration are found in Maryland, Utah, and Georgia. In some states there is merely a county superintendent or a county board of education with very few powers. The county unit of educational organization, however, is being discussed and worked out in nearly all of the states of the American Union. At present it seems that this is the form of administration which will obtain in many states in the near future, though progress may be slow in some of the states.

Advantages. — The advantages of the county unit

are numerous and weighty. For the children, it means better teachers, better buildings, better equipment, better curricula; and it guarantees equal opportunities for all the pupils of the community. For the teachers, it means better supervision, better buildings and equipment, more adequate salaries, equal lengths of school terms, and more assured permanence of tenure. For the taxpayers, it means the equalization of the educational burden of supporting the school; it means economical administration and the elimination of small, inefficient schools; and it means that, at a reasonable cost, high schools can be established within the reach of all the people. Under the county system the county superintendent will find his position of greater importance and influence; it should remove his office from partisan politics and give him a permanence of tenure which will enable him to plan and carry out a policy. It will give him some power over the placing of teachers and the construction of school buildings; in short, when completely installed, the county system will dignify his office.

Disadvantages. — Almost the only argument which can be urged against the county system is that it is less democratic than the district or township system. It is sometimes urged that the county system is a type of centralized government and should not be adopted as a form of administration for our schools. However, it would seem proper to do so inasmuch as the county is the unit for administration in all civil matters. It is urged that a county system will diminish local interest and local responsibility. This argument is contrary to common knowledge, for, even where a district is "supervised" by three directors, they give it small attention, and the much-

vaunted annual school meeting is usually attended by only a few of the men of the district. It is doubtful, however, if the county system of organization should take away completely the district responsibility in the states now having district organization. One director should be retained to look after the problems of the district school. It should be possible, also, for a local district to vote money for special purposes, to improve the local school, or to add sums to the county levy for special reasons. These two provisions would foster local pride in the district school. When a central school is provided for the entire township there is no longer any need of such local participation in school administration.

4. The State Unit.—In all the states of the American Union there is what we call a state system of education over and above all of the other units which we have considered. In many states the organization hardly deserves to be called a “system”; in many of them it exists only on paper. The system is administered by some officer, known as the “superintendent of public instruction” in about twenty states. In a few states—among them New York, Massachusetts, and New Jersey—he is called “Commissioner of Education.” In many states there is a state board of education; although as a rule this board usually does not have any mandatory powers over the state schools, its work being largely directory and advisory.

PROBLEMS FOR STUDY.

1. Discuss the merits and demerits of the district system of school organization; the township system; the county system; the state system.

2. Describe in detail the organization of schools in your own state.
3. What leads to differences in the school levies in districts where the district system prevails? Is this fair? Why?
4. Do you know of extremes in the district valuations where you have the district system of school organization? How does this affect the efficiency of the school?
5. What work is there in a local district to occupy the time of three school directors?
6. How many school directors are there in your state? What marked differences are there between the control of city schools and country schools?
7. What advantages for teachers are to be found where the county system prevails? What advantages to the community as a whole?
8. Have you a state board of education? How is it organized? What are its powers?
9. In many of the countries of Europe the length of the school year is more than two hundred days. What is the average length of term in the United States? In your state?
10. Should we extend the length of the school term in the United States? Give reasons.

READINGS.

Cubberley: *Rural Life and Education*, Chap. VIII. and X.
Dutton and Snedden: *The Administration of Public Education in the United States*, Chap. V., VI., and VII.
N. E. A. Report of Committee of Twelve.

CHAPTER III.

CONSOLIDATION.

Factors Working Against Consolidation.—As indicated in the preceding chapter, the county unit for school administration is highly desirable, and the township system is better than any district system. However, for some time to come it will not be possible to secure the adoption of a county unit or even a township system in many of the states. In the meanwhile, it seems best to continue the movement for what are known as consolidated schools. That is, to substitute for a number of neighboring one-room schoolhouses a single large, well-equipped building, with an adequate teaching force. To and from such a central building the pupils living at a distance are often transported at the public expense.

The chief difficulty which stands in the way of consolidation is the one which we encounter when we urge the abolition of the district system in favor of the township or county unit. The little “red” or “white” schoolhouse is always more or less woven into the emotional life of many members of a community because they have attended the school; and there are yet living men and women who have gone through some hardships and difficulties in order to secure and maintain such local schools. One other objection is urged with great force: namely, that the school being democracy’s greatest institution, should remain very close to the people.

Consolidation Not a New Device.—Consolidation is not a new educational device. As long ago as the

time of Horace Mann, shrewd observers of education were aware of the difficulties involved in a system based on so small a unit as the district, and sought a remedy. As early as 1870 some efforts were made at consolidation in Massachusetts, and since that time nearly all the New England states have undertaken the task. At the present time consolidation in one form or another has been tried to a greater or less degree in practically every state in the American Union.

In nearly all the states the movement is what might be called a "pioneer" one. We have more than 200,000 one-room country schools, and only a few hundred consolidated schools. The movement is being supported most earnestly by the United States Bureau of Education, the United States Department of Agriculture, the Southern Educational Board, the State Boards of Education, State Superintendents and County Superintendents; and, without exception, it is favored by every recognized authority on educational administration.

Arguments for Consolidation. — Where a county system or a township system cannot be obtained there are many reasons for the establishment of consolidation. In many of the states of the Union the rural population has materially decreased, and, along with this, a corresponding decrease has come in the enrollment of rural schools. Many schools which formerly enrolled from twenty-five to forty pupils now enroll from five to ten. In every state which has the district unit of administration there are several thousand schools in which the enrollment is less than fifteen children, and the actual attendance is less than ten.

1. This condition is economically bad, for the

reason that in a small school with only ten pupils, if a good teacher is employed, the cost per capita will be far out of proportion to the average cost in the whole state. In several hundred of the rural schools in one state the cost is fifty dollars per pupil for instruction, whereas the average cost for the whole state is slightly less than twenty dollars per pupil. This average cost includes several large cities in which elementary education is administered in a most efficient way.

2. A school of only ten children does not offer the best possible opportunities as to instruction—considered from the standpoint of either the children or the teacher. A better division of time between recitation and study can be made. In the district school there is not enough opportunity for competition to insure the best effort. On the other hand, the consolidated school furnishes stimulation in all intellectual and social matters, and this is desirable for both children and adults. The danger of social or moral stagnation is always greater in a restricted group.

3. The larger interest in life which will result from a consolidated school widens the intellectual horizon of the community, thus tending to do away with petty jealousies and animosities.

4. The consolidated school, with its auditorium and library, may be made to minister to the æsthetic and moral growth of the adult population. This is a very important matter, because the isolation of rural life has been one factor of the many which have caused young people—and older people, as well—to migrate from the country to the town or city. Man's æsthetic and social instincts must be ministered unto.

5. The consolidated school will be much better graded and organized, as the teacher will have fewer recitations or subjects per day. Pupils can work in classes of their own age and mental development.

6. Better teachers may be employed, for the reason that a teacher is more willing to work in such a school than in a one-room school, and specialists may be secured also to keep the school abreast of advances in education. The teaching force is more permanent and stable.

7. The building and equipment of a consolidated school may be much better than can be afforded in a one-room school. It would be extravagant and wasteful for most one-room schools to try to provide a thorough equipment for the vocational subjects of agriculture, household arts, etc., for so small a number of pupils as usually attend a one-room school. One hundred or one hundred fifty pupils could be provided for by the same equipment that would be necessary for twenty-five pupils. We are in the midst of great industrial changes of all kinds, and the school can best bear its resulting burden by having the children educated in larger groups.

8. The consolidated school is necessary to give all the children of the state equal opportunity to secure the privileges of an education. The four-or-five-month rural school, in poor physical condition and with no equipment, which is the best afforded to many thousands of country boys and girls, presents a sorry spectacle when compared with the magnificent buildings and equipments in the cities and towns of the same commonwealth. These arguments have a direct political bearing, because equal opportunity in the matter of education is necessary to the civic life in a democracy.

9. It is a comparatively simple matter to provide high-school education for the ambitious country boy and girl after consolidation has taken place; and one of the most important problems facing the American people is that of providing adequate means for the secondary education of its children.

10. It is easy to secure expert supervision with the consolidated school, as it conserves the time of the supervisor.

Methods of Consolidation.—In nearly all of the states, *permissive* legislation has been passed which allows voluntary consolidation through action by neighboring districts. This is the way in which we should naturally expect the movement to begin, for our people are strong believers in local autonomy in the administration of our educational and political institutions.

In a number of states the law provides for a type of *compulsory* consolidation, which must take place when the attendance in a single rural district falls below a minimum number. Usually the pupils are transported to another district, at public expense, when a school has been closed on account of small attendance. Both Indiana and Iowa are good examples of states providing for compulsory consolidation in this way. The schools are commonly closed when the average daily attendance falls below ten or twelve.

In a few states consolidation is brought about by offering *subsidies* from the state treasury when certain requirements have been met by the local community. In many respects, Minnesota has the best law of this kind, and Missouri has a law modeled along the same lines as the one in Minnesota.

In order that this study may take a very concrete

form, some laws now in operation in certain states are here summarized from a recent Bulletin of the United States Bureau of Education¹:

REQUIREMENT OF LAW AND OF THE NORTH DAKOTA STATE
BOARD OF EDUCATION FOR CLASSIFICATION ON CON-
SOLIDATED SCHOOLS.

First class.—To be entitled to aid as a State consolidated school of the first class, the law and regulations of the board require:

1. School term: Must be not less than nine months during the school year.

2. Attendance: The actual per cent of attendance for the school must be not less than 80; provided that each child between the ages of 8 and 15, inclusive, must attend school for the entire time that the school is in session, unless it can be shown to the satisfaction of the State board of education that the non-attendance is due to one of the following causes, viz. (1) attendance elsewhere at some approved school; (2) extreme poverty or destitution of the family which the county has failed to relieve on being requested to do so by the family in question; (3) completion of the course; (4) physical or mental incapacity; and (5) lack of transportation beyond the 2½-mile limit.

3. Departments: Must not be less than four departments.

4. Teachers: The principal must be a graduate of a State Normal school or higher institution of learning; he must hold a professional certificate; and must receive not less than \$90 per month. Each teacher must hold a first-grade elementary certificate or better, be a graduate of a standard four-year high-school course or equivalent, and must receive not less than \$65

¹ United States Bureau of Education, Bulletin 1914, No. 30—Whole Number 604: *Consolidation of Rural Schools and Transportation of Pupils at Public Expense*. By A. C. Monahan, Bureau of Education.

per month. On and after July 1, 1914, each teacher must be a graduate of a standard four-year normal-school course or equivalent, and must receive not less than \$70 per month. All teachers must render efficient service of a high grade.

5. School buildings: Must be suitable for school purposes, clean and well kept. Fire-escapes and outswinging doors in the exits must be provided, as required by law. There must be at least 12 square feet of floor space and 200 cubic feet of air space provided for each pupil.

6. Equipment: Each department must be provided with encyclopedia, dictionaries, supplementary readers, maps, globe, desks, and seats, blackboards, drinking water, laboratory equipment.

7. Course of study: The common-school subjects, including elementary agriculture, as named in the law and outlined in the State course of study, must be taught. A two-year high-school course must be offered, as outlined in the high-school manual. This shall include a course in either sewing or cooking and a course in either manual training or agriculture, provided at least 10 qualified high-school pupils ask for same.

8. Library: Must have a well-selected library of at least 150 volumes, divided between general and reference.

In addition there are certain regulations regarding heating, ventilating, and lighting required, also concerning outhouses and school grounds.

Second class.—To be entitled to State aid as a school of this class the requirements are practically the same as for the first class, except that the school may have two or more departments instead of four or more.

SUMMARY OF INDIANA STATE LAW ON CONSOLIDATION. (TOWNSHIP ORGANIZATION.)

Whenever a majority of the legal voters of any school district petition the trustee or trustees for consolidation, it shall be the

duty of the trustee to consolidate. No township trustee may abandon any district school in his township until he has procured the written consent of a majority of the legal voters in the school district. This does not apply to schools with an average daily attendance of 12 pupils or less. By State law a school whose average daily attendance during the year is 12 or fewer pupils is closed at the end of the year and the trustee may provide for the education of the pupils of the district in some other school. Transportation for all children living 2 miles or more from the school which they are to attend must be provided and also for pupils between the ages of 6 and 12 who live more than 1 mile from the school. The law requires the drivers of school wagons to furnish the teams and to maintain discipline while the children are in the wagons.

SUMMARY OF MISSOURI STATE LAW ON CONSOLIDATION.
(DISTRICT ORGANIZATION.)

The school code has provided for consolidation for several years, but comparatively little has been done. In the 1913 legislature the Buford-Colley consolidation law was passed. This provides that when the resident citizens of any community desire to form a consolidated school, a petition signed by at least 25 qualified voters of said community shall be filed with the county superintendent. The county superintendent is then required to inspect the community and determine the exact boundaries of the proposed consolidated district. He then calls a special meeting of all the qualified voters of the proposed consolidated district, at which a vote is taken by ballot to determine whether or not the consolidation shall be effected. A majority vote of those present, regardless of the sub-districts in which they live, is all that is required to adopt the consolidation.

Transportation may be voted upon at the same meeting. If it is not provided, the board of directors of the consolidated

district must maintain an elementary school within $2\frac{1}{2}$ miles of every child of school age in the district. Special State aid, equal to \$25 per year for each square mile in the area of the consolidated district, is provided.

LAWS RELATING TO CONSOLIDATION OF RURAL SCHOOLS IN
MINNESOTA (THE HOLMBERG ACT), 1911.

Procedure for consolidation of school districts.—Two or more school districts of any kind may be consolidated, either by the formation of a new district or by annexation of one or more districts to an existing district in which is maintained a State graded, semi-graded or high school, as hereinafter provided.

A district so formed by consolidation or annexation shall be known as a consolidated school district. Before any steps are taken to organize a consolidated school district the superintendent of the county in which the major portion of territory is situated from which it is proposed to form a consolidated school district shall cause a plat to be made showing the size and boundaries of the new district, the location of the schoolhouses in the several districts, the location of other adjoining school districts and of schoolhouses therein, together with such other information as may be of essential value, and submit the same to the superintendent of public instruction, who shall approve, modify or reject the plan so proposed and certify his conclusions to the county superintendent of schools. To receive State aid as a consolidated school of Class A or Class B, as defined in this act, the consolidated district must contain not less than 18 sections, and to receive State aid as a consolidated school of Class C, not less than 12 sections; but any existing school district of at least such area shall have the rights and privileges of a consolidated school district. A consolidated school district of less than 12 sections may be formed as herein provided, but shall not be entitled to receive special State aid as herein provided for. (Sec. 1, ch. 207, 1911.)

Duties of county superintendent.—After approval by the superintendent of public instruction of the plan for the formation of a consolidated school district, and upon presentation to the county superintendent of a petition signed and acknowledged by at least 25 per cent of the resident freeholders of each district affected, qualified to vote at school meetings, asking for the formation of a consolidated school district in accordance with the plans approved by the superintendent of public instruction, the county superintendent shall, within 10 days, cause 10 days' posted notice to be given in each district affected and one week's published notice, if there be a newspaper published in such district, of an election or special meeting to be held within the proposed district, at a time and place specified in such notice, to vote upon the question of consolidation. (Sec. 2, ch. 207, 1911.)

Election of officers.—At such meeting the electors, not less than 25 being present, shall elect from their number a chairman and clerk, who shall be the officers of the meeting. The chairman shall appoint two tellers, and the meeting and election shall be conducted as are annual meetings in common and independent districts. The vote at such election or meeting shall be by ballot, which shall read: "For Consolidation" or "Against Consolidation." The officers at such meeting or election shall, within 10 days thereafter, certify the result of the vote to the superintendent of the county in which such district mainly lies; if a majority of the votes cast be for consolidation, the county superintendent within 10 days thereafter shall make proper orders to give effect to such vote and shall thereafter transmit a copy thereof to the auditor of each county in which any part of any district affected lies and to the clerk of each district affected and also to the superintendent of public instruction. If the order be for the formation of a new district, it shall specify the number of such district. The county superintendent shall also cause 10 days' posted notice and one week's published notice, if there be a newspaper published in such district, to be

given of a meeting to elect officers of the newly formed consolidated school district: *Provided*, That a consolidated district shall upon its formation become an independent district, with the powers, privileges and duties now conferred by law upon independent districts. After the formation of any consolidated school district appeal may be taken as now provided by law in connection with the formation of other school districts. Nothing in this act shall be construed to transfer the liability of existing bonded indebtedness from the district or territory against which it was originally incurred. (Sec. 3, ch. 207, 1911.)

Consolidation with other districts.—In like manner, one or more school districts may be consolidated with an existing district in which is maintained a State high, graded or semi-graded school, in which case the school board of the district maintaining a State high, graded or semi-graded school shall continue to be the board governing the consolidated school district until the next annual school meeting, when successors to the members whose terms then expire shall be elected by the legally qualified voters of the consolidated school district: *Provided, however*, That in the case of consolidation with a school district in which there is maintained a State high or State graded school, consolidation shall be effected by vote of the rural school districts only, in the manner provided under this act, and by the approval of such consolidation of the rural district or districts with the one in which there is maintained a State high or graded school, by the school board thereof. (Sec. 4, ch. 207, 1911.)

Certificate by officers.—The officers of the several districts forming a consolidated school district shall within 10 days from receipt of copy of the order of the county superintendent certifying the formation of the new district, or immediately after the election and qualifications of members of the school board in the consolidated school district, turn over to the proper officers of the newly elected school board, or to the proper officers of the school board in the district maintaining the State high or graded

school, all records, funds, credits, and effects of their several districts. (Sec. 4, ch. 207, 1911.)

Powers of consolidated board.—For the purpose of promoting a better condition in rural schools and to encourage industrial training, including the elements in agriculture, manual training, and home economics, the board in a consolidated school district is authorized to establish schools of two or more departments, provide for the transportation of pupils, or expend a reasonable amount for room and board of pupils whose attendance at school can more economically and conveniently be provided for by such means, locate and acquire sites of not less than 2 acres, and erect and equip suitable buildings thereon, when money therefor has been voted by the district. They shall submit to the superintendent of public instruction a plat of the school grounds, indicating the site of the proposed buildings, plans and specifications for the school building and its equipment, and the equipment of the premises.

It shall be the duty of the superintendent of public instruction, with respect to schools in consolidated districts, to approve plans of sites, of buildings and their equipment, and the equipment of the premises, to prepare suggestive courses of study, including an industrial course, to prescribe the qualifications of the principal and other teachers, and through such supervision as he may appoint and in connection with the county superintendent, exercise general supervision over said consolidated schools. (Sec. 6, ch. 207, 1911.)

Procedure for receiving State aid.—1. For the purpose of receiving State aid, schools in consolidated districts shall be classified as A, B, and C. They shall be in session at least eight months in the year and be well organized. They shall have suitable schoolhouses, with the necessary rooms and equipment. Those belonging to class A shall have at least four departments, those of class B three departments, and those of class C two departments. The board in a consolidated school district maintaining a school of either class shall arrange for the attendance of

all pupils living more than 2 miles from the school through suitable provision for transportation, or for the board and room of such as may be more economically and conveniently provided for by such means.

2. The principal of a school coming under class A shall hold at least a diploma from the advanced course of a State normal school and be qualified to teach the elements of agriculture, as determined by such tests as are required by the superintendent of public instruction. A school of this class shall have suitable rooms and equipment for industrial and other work, a library, and necessary apparatus and equipment for efficient work, and a course of study embracing such branches as may be prescribed by the superintendent of public instruction.

3. The principal of a school coming under class B or C shall hold at least a State first-grade certificate, and in other respects those schools shall comply with the requirements of schools under class A, so far as this may be practicable, in accordance with requirements fixed by the superintendent of public instruction. Teachers other than the principal, including special teachers, shall possess such qualifications as are required of teachers in State graded schools.

4. Besides maintaining schools in consolidated districts conforming to the requirements of those coming under classes A, B, and C, the school board may maintain other schools of not more than two rooms and receive State aid for these as provided for semi-graded and rural schools. (Sec. 7, ch. 207, 1911.)

Aid for the various districts.—Schools under class A in consolidated districts shall receive annually State aid of \$1,500; those under class B, \$1,000; those under class C, \$750; and in addition to such annual aid a school of any of the above classes shall receive an amount to aid in the construction of a building equal to 25 per cent. of the cost of said building, but no district shall receive more than a total of \$1,500 for aid in the construction of buildings. The annual aid and the aid for building shall be paid in the same manner as now provided by law for the

payment of other State aid to public schools. Whenever any school in a consolidated district attains the rank of State high or graded school, it shall possess the rights and privileges of such school. (Sec. 8, ch. 207, 1911.)

Chief Elements in these Plans.—1. It may be noted that consolidation is promoted by having the old district lines entirely ignored in the formation of the new plot. 2. It is better to have a single mass-meeting of the voters in the districts concerned than to have the voting done by separate districts. 3. The county superintendent should make the plat for the new district, as the interests of all concerned will be better conserved by having an unprejudiced judgment about this matter. 4. Subsidies offered from the state treasury for construction of the building and the payment of teachers' salaries help to secure consolidation. 5. The future prospects of high-school instruction is always a vital factor.

Transportation.—One of the complex matters in connection with the consolidation of schools is the transportation of pupils to the central school. In the nature of the case, transportation adds materially to the cost of the running expenses of the school. Many American citizens are unalterably opposed to expending money in such a "socialistic scheme." However, the experience with transportation, wherever it has been tried thoroughly, shows quite conclusively that the additional expense is warranted by the results. The two most noticeable results may be mentioned as *the conservation of the health of the children* and *a more regular attendance*.

PROBLEMS FOR STUDY.

1. Make a careful study of the provisions for consolidation in your own state.
2. How long has your state had a consolidation law? How many schools have been consolidated in your state? How has the scheme worked?
3. Study carefully your nearest consolidated school.
4. What are the main points in favor of consolidation?
5. What are the arguments for and against state subsidies for school buildings in consolidated districts? Also subsidies for teachers' salaries?
6. Have you a provision in your state for the transportation of pupils? What is the average cost per pupil?
7. Enumerate all the arguments for and against the transportation of pupils.
8. Find out the number of schools in your state, if you have the district system, with an enumeration of less than fifteen pupils. What is the actual attendance in some of these districts? What is the cost per pupil in such districts? How does this compare with the state average?
9. Work out in detail a plan for consolidation for some districts in your county.
10. Show that any plan for consolidation of schools must keep in mind the ultimate good of all of the schools of the county.
11. Study in detail the plans for consolidation in each of the laws or digests quoted.

READINGS.

Betts and Hall: *Better Rural Schools*, Part IV.

Cubberley: *Rural Life and Education*, Chap. X.

Dresslar: *Rural Schools and Grounds*.—U. S. Bureau of Education, Bulletin No. 12, 1914.

Foght: *The American Rural School*, pp. 301-330.

Kern: *Among Country Schools*, Chap. XII.

Knorr: *Consolidated Rural Schools and the Organization of a County System*.

Report of the Committee on Larger Unit for Administration.

—Missouri State Teachers' Association.

CHAPTER IV.

SCHOOL FINANCES.

Education an Investment.—Since the foundation of the republic, and even in colonial days, it has been urged that education in a democracy is primarily a social investment and that it should not be considered an expenditure from any point of view. That is to say, no matter how much we may spend in the right sort of education, the return to society is always greater than the sum expended. Elaborate statistics might be offered in support of this proposition, from both an economic and a social standpoint, but it is not advisable here to go into detail. A few facts, however, will be of interest.

Unskilled laborers in this country commonly do not earn more than \$400 per annum. If the worker finds employment at this rate for forty years, taking the working period from twenty to sixty, he has earned only \$16,000 in a lifetime. It has been shown conclusively that graduates of the ordinary high-school course or of a technical course at the same academic level earn not less than \$700 per year. This course might be completed before the age of twenty. This worker would earn during a lifetime of forty working years \$28,000, which is a gain of \$12,000 as a result of a period of four years' additional training. Recently some very conclusive data were presented to show that the earnings of college graduates, or for those having the equivalent in technical education, were at the rate of \$1,200

per year or \$48,000 for a lifetime's earning. Or putting it another way: in a lifetime a college graduate or a technically trained worker puts in eight years of preliminary work and earns \$32,000 more than an unskilled worker. We may deduct the cost of the training at the rate of \$500 per year for eight years, which would make \$4,000, and still have a balance of \$28,000 in favor of the trained man. It should be observed that the college-trained worker usually gets to his task a little later than the unskilled worker, but he is better able to go on with it to the age of sixty-five or seventy.

Of course this is not a conclusive argument for a college education for every worker, but it does show that skill brings its economic reward, and therefore we might properly educate the children of a community or the state as a good business proposition. The more important argument, however, is that the skilled worker is always the better contented because of the mastery of his tasks, and he is better enabled to enjoy the spiritual inheritances which have been wrought out by the race.

A Brief History of School Finance.—In the early history of this country, public schools were supported by rate bills issued on parents or guardians, by subscriptions which were paid by parents or guardians of the children, and sometimes by lotteries which were run by communities or even by states. Licenses to engage in certain forms of business were issued at different times for the support of schools; the proceeds from the sale of stray live stock was used in certain states; it was a common practice to impose fines for various misdemeanors to be turned into the school funds; indeed, that practice is common still in many states.

In 1647 Massachusetts passed a law which permitted communities to tax themselves for the support of public education. By 1870 all of the states of the Union, at that time, had passed laws permitting rural communities to tax themselves for education. In many states these laws provided the maximum and minimum limits within which taxation should be levied. It is difficult to make a significant general statement for the whole country at present. It may be said, however, that nearly every state in the Union provides a minimum rate of local taxation for school purposes, and that most states provide a maximum rate.

Forms of Support. —At the present time, public education is supported in three general ways: 1. From interest on permanent funds. 2. From state levies on the whole taxable wealth of the state of special properties of one kind or another. 3. From local taxation.

Permanent Funds. —Every state in the Union at present has some form of permanent state funds, the interest from which is used for public education. These funds vary from more than \$50,000,000 in the state of Texas down to \$50,000 in the state of South Carolina. These funds have accrued from the sale of lands granted by the Federal government beginning with the ordinance of 1785. Several million acres of land have been granted by the Federal government to states for school purposes. In 1836 surplus funds then in the United States Treasury to the amount of \$28,000,000 were distributed to twenty-seven states, and practically all this money went into the permanent school funds of the various states. In 1850 an act known as the Swamp Land Act was passed by Congress. Under this act about

forty-eight million acres of land were given to certain states, and the proceeds from the sale of this land have been used for school purposes. In certain states many thousand acres of saline lands were similarly donated by the Federal government. The states sold this land and put the purchase money into the permanent school funds. In some states the school funds have been materially increased by the proceeds of war claims against the United States government.

In addition to the permanent funds secured from Federal grants and other sources indicated in the foregoing paragraph, a number of states have set aside immense areas of land which have been sold or rented, the proceeds from which have been invested for school purposes. These permanent state funds, now, may be held in the form of state bonds, permanent certificates of indebtedness, or even United States Government Bonds.

One of the saddest pictures in all educational history is that of the mal-administration of public school funds. In virtually every state in the American Union the funds have been misused, mismanaged, and dissipated. One authority estimates that at least fifty million dollars has been lost to these funds in the various states of the Union, and this is a mere pittance as compared with the vast loss which has been occasioned by the sale of lands at less than their real values. In some states the school lands, some of which are now valued at \$300 per acre, were sold immediately after the Civil War for forty cents an acre.

County Funds.—Many counties have separate school funds, and even township and school districts have special funds. These funds are administered

by the county court, township board, or even district boards.

Purpose of Permanent State Funds.—The purpose and value of permanent state school funds can be readily recognized when we take into account a principle which was stated in a preceding paragraph, namely, that education in a free democracy is the concern not only of the local community, but of the state as well. These permanent funds should be administered in such a way as to equalize somewhat the burdens of taxation, but more to the end that equal opportunities for an education may be afforded to all the children of the state. It may be added that in a good many states in the Union the administration of the funds has not been conducted in such a way as to provide for the realization of this last-mentioned purpose.

Of the total sum spent for public education, which is now more than \$600,000,000 annually, not more than four or five per cent. is provided from the permanent funds.

State Taxation.—In all the states of the American Union, some form of state taxation is provided for the support and maintenance of the public schools. In many of the states a certain amount of the gross general revenue is set apart for this purpose. This sum varies from a very small percentage to thirty-three and a third per cent. In other states a specific tax is made on certain forms of taxable wealth, as corporations, etc. In a few states, California and Minnesota for example, royalties are collected on various mine products. About twenty per cent. of the total revenue for the support of schools is raised by these forms of taxation.

Local Taxation.—More than seventy per cent. of the

total revenue for the support of schools arises from some form of local taxation. This tax may be levied on the county as a whole, on the city or town, the township or even on a single one-room school district. Undoubtedly, the American people believe in the principle that schools should be supported largely by local taxation on the general assumption that those most directly interested should bear the burden for the education of their own children, or at least make it a community matter.

As we study the various local schemes for taxation, we are profoundly impressed with the crudity and injustice of the application made of the principle. Where the district taxation system prevails it is not at all uncommon for a local district to levy as heavy a rate of tax as the state constitution will permit, and still be unable to maintain a good school. Whereas, a neighboring district makes almost no levy but, because of its wealth, may have a very fine school. This is indefensible in a democracy, for the reason that those who pay the most do not secure privileges comparable to those who do not tax themselves. In some states subsidies from the state funds are being granted to equalize these conditions, but it should be observed that there is no basis on which we can defend a system of taxation which makes two neighbors who live just across the road from each other, and happen to be in different school districts, pay two different school-tax rates, and with results out of proportion to the rates paid. This system is at variance with the very spirit of Americanism. Undoubtedly the local form of taxation should not be administered on a district basis, but on a township or, better still, on a county basis.

State Aid or Subsidy.—In the foregoing paragraph

it was noted that state aid in some states is granted to weak school districts. Though this serves a good purpose, it is doubtful if it should be the permanent solution of a problem. A special kind of state aid is that granted in some states on the condition that the local district shall provide for certain special forms of training such as drawing, music, household arts, agriculture, teacher-training for teachers for the elementary schools and various other forms of industrial and vocational education.

Apportionment of Funds.—The basis on which the income from permanent state funds should be apportioned is a matter of prime importance. Changes in wealth and population, resulting from the movement from rural to urban life, have emphasized the inequalities of distribution on the basis of population or wealth. These bases are unfair, moreover, because there is no direct correlation between the aggregate population and the needs of school children, just as there is no correlation between the accumulation of wealth in a great commercial center and the needs of the schools. Again, in sparsely settled districts, neither of these plans would furnish a suitable basis. Another basis has been the enumeration of school children, which has proved unsatisfactory because, even though the children are in the community, it does not follow that they may be in public schools. They may be in attendance at parochial schools or may be over the compulsory attendance age. Another basis has been the school enrollment or registration. This is not entirely fair because mere enrollment does not imply attendance.

A distribution based upon attendance permits of a more equitable division than the plan heretofore discussed, for the reason that the total number of

days attended by the child gives a definite presumption of service rendered and results obtained. The teacher basis, also, constitutes a definite and positive factor, for the reason that the teacher has had prescribed for her certain qualifications and must spend so many hours of her time per day in the matter of school management and instruction. A third factor which also deserves consideration is the need of the local community for funds.

Probably the best apportionment laws which are in force at the present time distribute the public funds partly on a teacher basis and partly on an attendance basis; with legislative provisions for special aid to take care of peculiar needs due to sparse population or low values. But not very many states in the Union have their apportionment laws based on these principles. Most of the laws are antiquated, being based on wealth or on an enumeration plan, and should be revised and brought into harmony with the principles stated above. Probably the best laws at present are those in force in California, Minnesota, and Missouri.

PROBLEMS FOR STUDY.

1. Make a study of the wages of unskilled labor in your community. Do any teachers in your county fall below this average? Why?
2. Are the highest paid workers in your community college graduates?
3. Have the highly paid workers who are not college graduates had any special training for their work?
4. Make a study of all the permanent school funds in your state—include state, county, and township funds. How have these funds been managed?

5. What is the value and purpose of permanent school funds?
6. What per cent. of the total expenditure for education comes from the permanent school funds?
7. State all the ways in which your state supports education. What proportion is this of the whole sum expended for education?
8. How is local taxation levied in your state? What proportion is it of the total amount expended for education?
9. How are the school funds in your state apportioned? Have you the best plan? Why?
10. Is education adequately supported in your districts? Your county? Your state? How can conditions be bettered?
11. What connection do you see between the support of education, teaching efficiency, and teachers' salaries?

READINGS.

Cubberley: *School Funds and Their Apportionment.*

Elliot: *More Money for the Public Schools.*

Elliot: *Some Fiscal Aspects of Education.*

Strayer: *City School Expenditure.*

Swift, F. H.: *History of Public Permanent Common School Funds in the United States.*

CHAPTER V.

SUPERVISION.

The Need for Supervision.—One of the characteristic features of modern civilization is the more careful and scientific supervision of social institutions. A great railway system employs a section boss as an expert supervisor over a half dozen section hands. In a well-organized department store we find a manager over a dozen salesmen or saleswomen. In any factory we find a foreman, who supervises some relatively small number of workers. A pit boss in a mine is responsible for ten or fifteen fellow-workers. The Government recognizes the value of trained inspectors throughout the whole postal service. We might enumerate many other closely supervised situations in industrial and civic life. It is a startling thought, that notwithstanding the fact that we have millions of dollars invested in school plants and equipments, and spend more than six hundred million dollars a year on public education, we have not as yet evolved any adequate means of supervision for rural schools.

Elimination of Waste.—We must devise a better system of administration and supervision in order to eliminate much of the waste which is going on in connection with school work at the present time. Many large city systems of the country have elaborate administrative machinery; in fact, it is thought that some great city systems are over-supervised. We may have a city superintendent, with assistant

superintendents, district superintendents and ward-school principals, and many supervisors of special subjects, including music, drawing, penmanship, manual training, and household arts; while some cities have special supervisors in the ordinary subjects, such as English, history, and arithmetic. But certainly most town and rural schools are not oversupervised. In the small town the ward-school principal commonly is a grade teacher and does not have any considerable amount of time for actual schoolroom supervision. In the rural school a county superintendent has entrusted to him a very large amount of office work and the supervision of from forty to two hundred teachers, who are scattered over a wide territory. Under such conditions, he can make one, or at most two, short visits to each school during the term. This is not supervision, or inspection in any real sense. It does not give time for proper advice, because the superintendent is not in the school long enough to make such a critical study of the needs as to be able to give much advice.

Need of Reorganization.—There is urgent need of a more adequate organization for the supervision of public education in nearly every state in the Union; New York, Massachusetts, New Jersey, and Idaho being the notable exceptions. This reorganization should begin with the State Department of Education, which should be removed from politics, and the members of the department selected in such a way as to secure educational experts. Space does not warrant any elaborate discussion of this problem; it must be pointed out, however, that this removal from politics is an essential pre-requisite to the efficient supervision of state schools.

At present it seems best to have a state board of education, made up of high-class business and professional men, whose function it will be to select the Commissioner of Education on the sole basis of capacity and ability to render service. The commissioner should be selected for a long period—four or six years at least—and should be paid a salary which will attract to the office the very best-equipped men in the country. The commissioner should be allowed to select his own assistants, on the sole basis of experience and fitness for the positions to be filled. The number of these assistants will depend on the requirements of the educational institutions of the state. It seems strange that we recognize these principles in business matters, but cannot recognize them as fundamental in the important matter of education. We can pass a law for the appointment of a public-utilities commission and trust the governor to select experts for this service, and, on the whole, in most states, the governor has been wise enough to choose very competent men to perform the work. Yet we insist on selecting a state superintendent who has been nominated at a general primary, for a position which as definitely requires an expert in every way as does the work performed by any public-utilities commission.

County Superintendent.—The most important office in relation to improving conditions in rural-school supervision is the county superintendency. Almost any sort of county superintendent will do some good, but the importance of the work merits the selection of a high-class educational expert. The office should be entirely removed from politics and only a man of undoubted experience and qualifications should be selected for the work.

In some states the county superintendent is selected at the annual meeting or at the regular general elections. He may or may not have been nominated by some form of party convention or primary. In any event, except in two or three states, no provision is made by law to insure a high degree of competency for the position. Some years ago every up-to-date city school system, through its board of education, secured power to select an educational expert for its superintendent, with no restriction of any kind as to residence or political affiliation; and yet we seem unwilling to apply this same well-recognized principle to the small towns or county superintendents. The recognition of this principle is necessary before we can secure effective supervision.

The county superintendent should have adequate office help and assistants in the actual work of supervising the schools. It would be a joke, if it were not a "near-tragedy," to expect a county superintendent to supervise so many separate school districts, when the average length of term for those districts is about one hundred days. No superintendent, unaided, can adequately supervise more than forty teachers, even when there are only short distances to be traveled from one school to the other. Then, too, special supervisors should be provided for special subjects, as it is difficult to find a single supervisor who is competent to give expert advice in all the common-school subjects and special subjects now required. Provision should be made so that the county superintendent may have enough assistants to provide one supervisor for each thirty or forty teachers.

We must further recognize the fact that the new

demands on the school, in the form of vocational education, require more adequate supervision and academic and technical training for the supervisor.

The elementary schools of the county would, under such a reorganization as this, move towards efficiency by leaps and bounds. In a few states we have rural school inspectors to reinforce the work of the county superintendent, but usually there are not enough of them to get very much of the work done. Their value consists chiefly in helping county superintendents to set adequate standards.

PROBLEMS FOR STUDY.

1. Show why expert supervision is economical.
2. Prove (by citing instances) that business enterprises profit by expert supervision.
3. Which are more efficient, urban or rural schools? Why?
4. Describe the supervisory machinery of some large city system of schools.
5. What is the title of the state supervisor of schools in your state? Give his eligibility, manner of election, tenure of office, salary, and duties. What change, if any, should be made in any of the foregoing items?
6. Have you county superintendents in your state? Tell of their eligibility, manner of election, tenure of office, and duties.
7. How could the efficiency of the county superintendent in your state be increased?
8. Is it possible to secure good expert supervision by means of popular elections? Give reasons for your answer.

9. How much actual direct supervision should the state superintendent do?
10. Lay out a plan for the adequate supervision of all the schools in your county.
11. Formulate a scheme for measuring and recording the efficiency of teachers supervised by a city superintendent; a county superintendent.

READINGS.

Betts and Hall: *Better Rural Schools*, Chap. XXI.

Cubberley: *Rural Life and Education*, Chap. XIII.

Dutton and Snedden: *The Administration of Public Education in the United States*, Chap. VI. and VII.

CHAPTER VI.

SCHOOL GROUNDS AND BUILDINGS.

THE discussion in this chapter relates primarily to the one-room school, though some of the principles may be applied with equal usefulness to the construction of larger buildings.

Grounds.—The location and grounds for country schools have received little consideration. The law usually provides that the building be placed as near the geographical center of the district as possible, and this has often prevented the selection of good school sites and has resulted in the location of many positively bad ones.

The school should be accessible to all the children of the district, and it is important that it be located upon good, porous soil, preferably of some sandy formation, which may be easily drained and used for agricultural work and gardening activities which belong to the school. The playground, especially, should be so situated as to drain readily. The grounds should be made attractive by planting trees and shrubs. The observance of a few Arbor days will enable the teacher and the children to secure a very beautiful yard.

The school grounds should be large enough to allow plenty of play room and should be kept in such a way as to make them suitable for recreation. The time is past when children should be expected to become trespassers in the neighbors' fields. We have yet to realize the full value of play for country

children. Many parents think children do not need to play when they have plenty of farm work to do, but there is a difference between work and play.

The consolidated or union schools should have enough room for agricultural demonstration purposes. The one-room school should have not less than two acres of good ground belonging to it, and a consolidated school might have four or five acres.

In towns and cities care should be taken to construct buildings for elementary school purposes on such sites as will not be so near to other buildings as to shut out the light; nor should they be near objectionable resorts, such as saloons, pool-rooms, etc.

The Building.—From almost any standpoint, rural school architecture presents a sad picture. A vast majority of these one-room schools are of the box-car type; they have length, breadth, and height, but no "shape." Society has yet to realize the necessity of working in a shop thoroughly suited to the task. Moreover, we do not appreciate the value of suitable environment as an essential factor in the educational process. Undoubtedly, it would pay well, as a mere economic investment, to construct good school buildings with attractive exterior and interior, and much more would it be worth while in helping to secure an appreciation of the school as an institution,—to say nothing about training in æsthetics. There should be an expert architect on the staff of the state superintendent, whose business it would be to supervise in person or by deputy the construction of all school buildings. His supervision ought to include the construction of all school buildings in the country, and in the villages and towns where no other architect has been employed.

Dimensions for Buildings.—There are no final rules for the construction of one-room schools. As has been said many times, each child should have at least twenty square feet of floor space. Taking such a measure as this, a schoolroom 32 x 24 feet might be large enough for thirty-eight or forty pupils. This does not include cloak-room space or library space; and allowance should be made for the stove and drinking fountain. The ceilings in a one-room school need not be *more* than twelve or thirteen feet high. A great many considerations enter into the discussion when we come to estimate the size for the ideal schoolroom; among those of importance may be mentioned the fact that the schoolroom should never be so large that the ordinary speaking voice of the teacher or child cannot be heard in any part of it; maps and charts or blackboard work should be seen readily from any part of the room when it is well lighted. A room should be longer than it is wide, and where the lighting is from one side only, it is necessary to have the room considerably longer than it is wide to secure the proper amount of light.

Basement Room.—Every school building, whether it is to be a one-room school or larger, should have a basement under the entire structure. This adds much to the value of the plant, while the added expense of construction is small compared with its usefulness. The basement should be well constructed, with a concrete floor and walls, and have perfect drainage. Part of it may be used for the furnace and fuel-room, but it should be so arranged as to provide a playroom for bad weather, and the children may use it for a lunch-room. In large or consolidated districts it provides a place for manual-training and

household-arts equipment; and it is possible to have laboratories and toilets located in it.

Cloak-Rooms.—Wraps, rubbers and overshoes should not be taken into the schoolroom. A separate cloak-room, even though small, should be provided for both boys and girls. The cloak-rooms should be so arranged that the children may pass through them before entering the schoolroom proper. Where there is no special room for lunch-boxes or baskets they may be deposited in the cloak-room.

Lighting.—We have come to appreciate most thoroughly the great importance of schoolroom lighting. Many of the older school buildings, however, still present very unhygienic situations. The amount of window space required depends upon several conditions. It varies from one-sixth to one-fourth of the floor space of the room. All rooms should be lighted on one side, and in no case should the light fall into the faces of the children or the teacher. In general it is best to have the east light, and this would make the building face west. There are some small objections to this, but they are of no significance when compared with the value of having good light. Under no circumstance should the building be lighted so the light rays cross in the rooms. Where it is necessary in warm climates to have windows for ventilation purposes, these should be placed in the rear, at the top of the room. Such windows should be almost to the ceiling and only two or three feet square, or of such proportions as to go well with the schoolroom. When the east light is used the problem of window shades is most easily solved, for the light will come through shades in the morning and they may be left drawn in the afternoon.

Ventilation. — Everywhere the need of pure air is being recognized. We know its value in the home and in the sleeping-porch or the open sleeping-room. It is almost a fad, but it is a good one. The problem in respect to the school, however, is a much more difficult one than for the home, because it is impossible to secure changes in the atmosphere with sufficient rapidity to insure its purity. In the ordinary schoolroom we may have twenty-five or thirty children, with an air space of not much more than double that of the living-room in many homes where only four or five people live. This makes it necessary to use artificial means to cause rapid movements of the air, and the problem is all the more difficult in warm weather.

The Use of Windows.—Ordinary ventilation, by use of windows, is very inferior, especially in cold weather and where the windows are on one side of the room. Care should be taken to allow the air to come in from all of the windows rather than from one. Window boards may be used in cold weather, and in extremely cold climates double windows are of much value. When there is no other ventilation, the room should be thoroughly flushed by lowering all the windows and opening the doors at each recess time. Of course this may be something of a tax on the heating arrangements, if the system is not adequate, but it is imperative that the children should not be forced to work in a poorly ventilated schoolroom. It has been estimated that children in the elementary school should have from two to three thousand cubic feet of pure air per hour, so provision must be made for cleansing the air of the ordinary schoolroom every few minutes.

Proper Temperature.—There has been much dis-

cussion concerning the proper temperature for good working conditions in the schoolroom. No absolute statement can be made, because climatic conditions and humidity are important features in determining a comfortable temperature. In localities where the climate is moist and the temperature is moderate throughout the year, a maximum of sixty-five degrees Fahrenheit is commonly prescribed; but in many parts of this country, where the winter is severe and the humidity is low, it is necessary to raise the temperature to sixty-eight or seventy degrees in order to secure comfort.

Methods of Heating.—The schoolroom may be heated by an open fire, a stove, hot-air furnace, steam or hot water.

1. *The Open Fire.*—The old-time method of heating the schoolroom was the open fireplace. In some respects this was excellent, because it furnished good ventilation, but as a method of heating it has been discarded because it requires a great deal of attention and is exceedingly wasteful of fuel. If the fireplace could be screened and supervised in order to minimize the dangers of fire, it might still be used as a valuable aid to ventilation. The children could be allowed to come near it when shoes or clothing are slightly damp; furthermore, it gives cheerfulness to the room.

2. *Stoves.*—Eight out of ten rural schools are heated by the ordinary unjacketed stoves, most of which are of the plain box type, and probably half the village schools are heated in the same way. These stoves are usually placed near the middle of the class-room, so that those children near the stove are overwarm, on one side at least, and those at a distance from it are too cold for comfort, while

the floors are always cold. Even temperature for the whole room cannot be secured or maintained from such heating. Moreover, it does not provide for ventilation and, unless care is taken, the air is usually deprived of moisture. Of course, this last difficulty might be remedied somewhat by placing a large open vessel of water on the stove. This form of heating should be prohibited by law, because it is wholly unsatisfactory and is actually inhuman and cruel. Every reader of this paragraph who has attended a rural school heated by a stove has been tortured many times with a burnt face and cold feet.

3. *Jacketed Stoves*.—It is not difficult or expensive to transform the ordinary stove into a jacketed stove by changing the stove to one corner of the room and encasing it with ordinary sheet-iron, set out a few inches from the stove. An opening is left in the iron so that the stove door is accessible. The casing should extend to the floor and reach a foot or two above the top of the stove. The stove should be set in the northwest corner of the room, to secure the best ventilation, and the *foul-air exhaust* should be across the room in the opposite corner. The cold-air duct should come from the outside of the school-house and open immediately under the stove into this jacket. This will aid the ventilation somewhat and keep the stove from over-heating. This scheme will not supply sufficient ventilation except in extreme weather, as the amount of pure air which comes in through the duct is not ample for the needs of the ordinary schoolroom. Several firms now manufacture special stoves for this purpose. The Waterman-Waterbury and the Smith are two of the well-known ones. The jacketed stove furnishes good

heat and is so simple that its operation is easy for the teacher or janitor.

4. *Hot-Air Furnaces.*—The hot-air furnace is simply a large stove located in the basement of the building, with a jacket so constructed about it that heat is sent up to the room or rooms through metal ducts. The hot-air furnace is undoubtedly the best form of heating for small buildings. In severe weather it helps very considerably in ventilation. It may be operated by any teacher or an untrained janitor. There is no danger of freezing when the fire is not on, as is the case with steam and hot-water systems. This is an important item, because there are two holidays each week for the school building. It is a very simple matter to secure moisture for the schoolroom by this means of heat, as a pan may be placed in such a way as to allow the moisture to be taken up by the air before it enters the schoolroom.

There are some limitations and disadvantages in the use of the hot-air system of heating; among those most evident is the difficulty of operating it in such a way as to secure a uniform temperature on very windy days or when the weather is exceedingly cold. The hot-air furnace requires a greater amount of fuel than steam-heat or hot-water heating. The technical possibilities of the hot-air furnace have not been developed and it is a matter of much difficulty to get a really effective furnace installed, one that is large enough and located in the proper place, with the ducts of a proper size and material. To insure good service, the installation of a hot-air furnace in a one-room school should be supervised by some wholly disinterested expert.

5. *Steam Heating and Hot-Water Heating.*—Steam heating and hot-water heating are too expensive

for small school buildings. The initial cost is too large and the expense of operating, because expert janitor service is required, makes them wholly unsuitable for small buildings, and, again, they present a serious problem for the Saturday and Sunday holidays unless a janitor is employed all the time, and even then the expense would be too large for a small plant.

Humidity.—Only recently we have begun to appreciate the necessity for a proper amount of moisture in the air used in our residences and schoolrooms. Formerly, the only consideration was temperature. Now we know that it is necessary for the room to have a proper degree of moisture in order that health and comfort may be insured. All of us who have been pupils in a stove-heated, one-room school have been sufferers from “parched air.” The stove burnt the air until it became so dry that our throats and nasal passages were irritated by breathing it. Breathing such air is dangerous, because it makes us much more susceptible to colds, pneumonia, diphtheria, and all the diseases of the respiratory organs. The so-called epidemics, including measles, smallpox, whooping-cough, croup, and pneumonia usually occur at a time of year when school children have been crowded into poorly ventilated schoolrooms during cold weather; the home contributing also, because it is poorly ventilated during this same season. The methods of determining humidity are too complex for discussion in such a treatise as this. The reader is referred to Dresslar’s *School Hygiene* ¹ for a good discussion of the subject.

Desks.—One of the most important helps in making

¹ Dresslar: *School Hygiene*, pp. 202-219.

the schoolroom a good work-shop is to have it properly seated. A good deal has been written about the hygienic requirements for school desks, but not much has been actually accomplished in the manufacture of a perfect desk, and much less in getting the desk installed in school buildings. The school desk should provide for the comfort of the child. The back should fit the form and size of the body, and the top should be constructed so as to be easily adjustable to the angle of reading and the angle of writing. Particular care should be taken that the backs of the seats fit the children; otherwise there is danger of causing curvature of the spine. Single seats and single desks are more expensive, but their values are so obvious that no school board should consider installing any other kind.

Blackboards.—Blackboards may be constructed of wood, liquid slate-cement, real slate and glass. For the ordinary one-room school or even the four-room consolidated school, possibly the best board is a slate, or glass board, but they are proportionately too expensive in one-room or even four-room schools. If the slate-cement is put on properly it furnishes a very good board and will last for many years. The most satisfactory color for a blackboard is a dull black, although the right tint of green is also satisfactory. The liquid-slate, which has been used a great deal lately, cannot be recommended, because it is impossible to prevent the plastering from disintegrating and discoloring it.

The blackboards should not be placed on the side of the room where the windows are located, and under no circumstances should the blackboards be placed immediately adjoining the windows. Care must be taken that a board is not placed too high for

the small children; for very small children it should come down to within two or one and one-half feet of the floor. Good chalk troughs, sufficiently wide to hold the erasers and deep enough to catch the chalk dust, should be constructed just beneath the blackboard. It is a good plan to have a small wire mesh placed across the trough, so the dust may go through it and the erasers do not rest in the chalk dust. This trough should be constructed in such a way that it may be turned up when we desire to clean the dust out. This device is very simple and inexpensive and prevents the scattering of dust through the atmosphere.

Toilets.—The toilet problem has not received any considerable degree of attention in connection with the rural school and the rural home. In towns and villages where there is no sewer system the conditions in both the homes and schools are very little, if any, better than in the country. We must attack the problem with intelligence and earnestness at once. This should be done in the interest of decency, sanitation, and morals. It is not possible to present a detailed discussion of the problems in such a book as this. The author desires to point out, however, that the ordinary toilet facilities for both home and school in the country or small towns are a sad reflection on our advanced stage of civilization. Very commonly they are so constructed as to be exposed to flies, which carry filth everywhere. They are sources of diseases of various kinds, and therefore are a direct menace to the health of the home and community. It has been accurately estimated that more than half of the rural and small-town schools have unsanitary outhouses. It is a shame and a disgrace to modern civilization that these conditions

exist. How much uncleanness of thought and life has been suggested by the unsanitary school toilet we can never estimate, but it is well known that no part of the school environment presents such awful possibilities for immorality as does the school toilet.

The Water Supply.—The importance of a good supply of pure water cannot be overestimated. Recently the author looked over some statistics from several counties in which the water provided for rural schools had been carefully studied, and it was discovered that, even in well-to-do communities, not more than one school in ten had a never-failing supply of pure water. A shallow well, or spring, or even an unkept well, commonly furnished the supply. None of these can be satisfactory.

Possibly the best way of securing good water for the rural school is to have an adequate cistern, which should be cleaned just before school opens, all the water being taken out and the walls thoroughly cleaned, and then a supply of pure water hauled and put into it. This will furnish a good supply during the school term, as using water out of a cistern will aerate it sufficiently to keep it in good condition. The situation in villages and small-town schools is somewhat better than in country schools, but the problem is by no means solved in them.

Each schoolroom in the country should be equipped with a sanitary drinking fountain, and in a consolidated or village school there should be at least one drinking fountain for each two or three rooms. The old-fashioned water-pail and drinking cup are so thoroughly dangerous and out of date that they ought to be prohibited by legislative enactment, not only in the schools, but in all public places. Recent discussion and agitation on this subject has

made this fact so obvious that the author does not care to speak of it further. However, it should be noted that in many states the public drinking cup has been abolished on trains, in hotels and other public places. Many of the rural and other schools still use the common cup. We are willing to insist that a public corporation shall do more to protect society than shall an educational agency, such as the school!

Decoration.—Every schoolroom should have some simple decoration. In the first place the walls should present an attractive appearance. There is much discussion about the color of the walls for schoolrooms. The consensus of opinion seems to be, however, that a light grayish buff is best for all purposes. All schoolroom decoration should be in harmony with the walls. The pictures or mottoes selected should be simple, but should have æsthetic value. The room should not be decorated with gaudy, unmeaning pictures; only suitable copies of masterpieces should be bought. It is better to buy one or two good pictures a year than to get many cheap ones. Care should be taken to select those masterpieces which have direct values for children, rather than adults.

Charts and Similar Equipments.—It is desirable to have a good chart for teaching reading, and, if possible, the school ought to be equipped with some charts for the teaching of hygiene and physiology. An up-to-date school will need at least one sand-table and a set of laboratory apparatus for teaching arithmetic.

The Library.—No rural school can be thoroughly efficient without a library-room and a good working supply of books. If possible, the room ought to

be well lighted and so constructed as to be shut off entirely from the schoolroom proper. The library should contain one or two small dictionaries and some books on history, travel, adventure, etc. It is not wise to spend money on a fine dictionary or encyclopedia until the library is well supplied with the other books mentioned above. The first hundred dollars spent for a library should not include an unabridged dictionary or a large encyclopedia; small ones will do.

Vacuum Cleaners.—A thoroughly up-to-date equipment will include a vacuum cleaner. In the long run this is economy for everybody concerned.

Conclusion.—It is evident that all the foregoing suggestions cannot be carried out in a one-room rural school, because, according to present-day thinking, it is an economic absurdity to make such an outlay for fifteen or twenty children. The minimum expenditure for the building and equipment suggested would probably be one thousand or twelve hundred dollars, whereas two thousand or twenty-five hundred dollars would provide a much better equipment, which might be used by a hundred children or more. This calls our attention again to the fact that under modern conditions the district unit is a very unsatisfactory one.

In the appendix will be found a number of model school plans, with descriptions, as well as "Minimum Sanitary Requirements for Rural Schools," proposed by the Joint Committees on Health Problems in Education of the National Council of Education; the National Education Association; and the American Medical Association.

PROBLEMS FOR STUDY.

1. Plan an ideal playground for a one-room rural school.
2. Discuss the value of a school garden.
3. How can the school help the improvement of home gardening without having a school garden?
4. Describe a good floor plan for a one-room rural school and give the value for each feature of the plan.
5. Show the value of the proper lighting of schoolrooms.
6. What should be the maximum seating capacity of a room 32 ft. by 28 ft. and 12½ ft. high, and how much fresh air should come into this room every minute?
7. How would you provide for ventilating a poorly arranged schoolroom?
8. Discuss the value of proper humidity for schoolrooms. What precautions should the teacher take where sufficient moisture is not provided?
9. Discuss the value of good blackboards, sanitary crayons, and dustless erasers for schoolroom purposes.
10. Discuss the relative merits of the various systems of heating and ventilation.
11. Describe in detail an ideal school desk.
12. Name ten suitable school pictures for schoolroom decoration and give reasons for your choice.
13. Make a list of one hundred library books for a one-room school or for any grade in the elementary school.
14. Make a list of laboratory apparatus necessary for teaching elementary arithmetic.
15. How much would it cost to get the necessary apparatus to teach manual training in a one-room rural school? How much to teach household arts?
16. What is the necessary apparatus to teach elementary agriculture and what would it cost?

17. Measure the window space of three schoolrooms to determine how nearly they meet the demands for adequate lighting.

READINGS.

Barry: *The Hygiene of the Schoolroom*, Chap. I.-VI.

Burrage and Bailey: *School Sanitation and Decoration*, Chap. I.-VII.

Dresslar: *Rural School House and Grounds*.—U. S. Bureau of Education, Bulletin 1914, No. 12.

Dresslar: *School Hygiene*, Chap. I.-XIV.

Shaw: *School Hygiene*, Chap. I.-VII.

CHAPTER VII.

THE TEACHER.

A Social Administrator.—It must always be kept in mind that the teacher is the manager of a social enterprise, for the school is society's organization to conserve existing culture and to provide for social progress.

Both the teacher and society only vaguely appreciate this important function of the teacher. We are much more aware of the importance and value of managerial capacity in industrial, political, or religious life than we are in school life. Possibly this lack of appreciation of the problem grows out of the fact that the parents are responsible for the support and care of children. At the same time, the teacher has delegated to her, in a large measure, the important function of making the child ready for its necessary social relationships.

Good Health Necessary.—As part of the initial capital required for the success of the young man or woman who undertakes to become an effective teacher, it is necessary that he or she should have a thoroughly sound physical constitution. Teaching is hard work, notwithstanding that the impression prevails in some quarters that such is not the case. Moreover, a rural teacher is exposed to all the inclemency of the weather in going to and from school. Unfortunately, many rural school teachers have to act as janitors, to build their own fires and even to clean the schoolhouse. The indoor life itself, with

its poor ventilation, makes a heavy tax upon a good constitution.

Most of all, teaching is a nerve-racking occupation, because the "rules of the game" are so crudely drawn. There is no standard which the teacher or the community may use to measure the efficiency of the school. This uncertainty consumes a tremendous amount of nerve force. Some day soon the state will be wise enough to insist upon a health certificate before students are allowed to enter the work of teaching; indeed, the certificate should be obtained before the individual is allowed to enter teachers' training classes in high schools or enroll in normal schools or teachers' colleges.

Personality.—In the older pedagogical discussions very much importance was attached to the teacher's personality. More recently, some attempts have been made to minimize this consideration. However, the greatest single factor in the ultimate efficiency or failure of the school is that intangible something we call "personality." Doubtless every reader of this chapter can readily recall two people of equal academic and professional training who have secured schools under practically the same conditions; one of them, from the very outset, was in a large measure successful, while the other failed from the first.

Theoretically, these two beginners were very much alike, but so far as the actual performance of the task was concerned, they represented quite different capacities. This difference, we say, was due to personality. What is it? Any student of education or supervisor of teachers has had occasion to ask this question many times. Its answer is exceedingly difficult, because personality is a wonderfully com-

plex something. Some attempts have been made to analyze it, but all of these attempts are more or less unsatisfactory. Yet, inasmuch as it is such an important matter, it seems desirable to offer some discussion of those traits of character which go to make up an attractive or magnetic personality. Bagley publishes an account of the study of the problem in a recent book, *School Discipline*.¹ In this study opinions were secured from one hundred successful school superintendents and principals, listing the ten "specific qualities" to make up a good teaching personality. The ten qualities which found a place on the largest number of lists were then listed.

As a result of this investigation the following traits were listed: 1. Sympathy. 2. Personal Appearance. 3. Address. 4. Sincerity. 5. Optimism. 6. Enthusiasm. 7. Scholarship. 8. Vitality. 9. Fairness. 10. Reserve or Dignity. In some sense these qualities may be said to represent a sort of composite judgment of the one hundred superintendents or principals as to what should make up the ideal teaching personality. Of course, we readily understand this does not represent any very scientific judgment, but rather a sort of "general impression." One hundred forty superintendents and principals were asked to make a list of their six best teachers, ranking them first on "general teaching personality," in order, and then according to the ten specific qualities enumerated above. The very interesting result of the second ranking was the complete rearrangement of the traits which are important factors in making the teaching personality. The rearrangement is as follows: 1. Address. 2. Personal Ap-

¹ Bagley: *School Discipline*, pp. 30-49.

pearance. 3. Optimism. 4. Reserve. 5. Enthusiasm. 6. Fairness. 7. Sincerity. 8. Sympathy. 9. Vitality. 10. Scholarship. It is not our purpose to determine whether this list is adequate or final. It is presented here only because of the method of its selection. In these days of scientific measurement it is possible to lose sight of the fact that there are some qualities necessary to make up the ideal teacher which do not readily submit themselves to any form of mathematical description. Some brief discussion, however, may not be out of place concerning the meaning of some of these and other qualities which ordinarily inhere in persons of successful teaching ability.

Personal Appearance.—Recently the author received a letter from a prominent superintendent, asking him to make a recommendation for an important position in his schools. After enumerating the qualifications, he made the significant remark, "We do not object to good looks." We doubt if many superintendents are quite so frank as this one was; at the same time, those of us who have had experience in selecting and placing teachers know very well that a pleasing appearance is an important factor in securing a position. Of course "good looks" alone will not hold any position. They are largely a kind of "initial prejudice," which works in favor of the applicant from the outset, but must be backed up by superior moral qualities to be of enduring value. Nature has not been uniformly generous in giving to all of us an attractive physique, but, fortunately, care, dress, and manners go a long way toward making any human being interesting and useful. We soon forget mere beauty of face or form in persons of gentle manners and noble spirit.

Sincerity.—First of all, we need to have sincerity concerning the work of teaching. Society, as well as parents, has a right to demand this of us and, for our own moral welfare, we ought to demand it of ourselves; because no worker can obtain any large measure of skill or happiness in his work unless he believes profoundly in the worth-whileness of that work. The children have a right to sincerity in us, because childhood is pre-eminently the period in which truth and reality for their own sakes are so much desired. This is a professional matter, also, because there can never come about any real professional spirit and consciousness until members of the craft enter it and pursue it with earnestness and sincerity—with passion.

Professor George Herbert Palmer, in a recent address on "What is a Profession?"¹ said: "Strictly speaking, I think it would be true to say that every sound teacher enters his work for the fun of the thing. I began teaching because, on the whole, I liked it better than anything else. Sometimes it seems to me that I should hardly care to go on with it if I were not a teacher. I look down from my height as a teacher on all the other little struggling mortals that have their inferior things to do; I do not think much of them. The fact is that Harvard college is paying me to do the work that I would gladly pay them to allow me to do. I hold that a man should go into a profession because that is what he wants. The teacher wants to teach; the painter wants to paint; the scientific man wants to know." Doubtless some readers will call this an exaggerated form of idealism, but the fact remains that this is

¹ *Journal of Education*—Dec. 3, 1914.

the sort of "stuff" which makes real teachers. Anything less than this attitude tends toward insincerity and stupidity.

Optimism.—Some such motto as this should be written over the door of every schoolroom in the world and in the heart of every would-be teacher: "No Pessimism shall ever enter here." This sentiment is absolutely requisite for a teacher's personality, because childhood is the time of hopeful, buoyant expectancy, and no depressing doubts, fears, or disappointments should be thrust into the lives of small children. An attempt should be made to reduce such experiences to the minimum. Another thing,—optimism is necessary to keep us "believing in and hoping in" the sacredness of all child life. We should not urge a sort of optimism which allows the teacher and the children to have a "go-as-you-please" attitude toward the important things of life, but rather that sort of optimism which believes in childhood as it is guided through intelligent discipline and instruction.

Altruism.—No teacher can be a marked success who does not have a keen appreciation of the values involved in striving for the common good; an intelligent sympathy for children, parenthood, and the social welfare. All these are fundamental for a commanding teaching personality. There can be no doubt that this is one of the serious problems to be solved in connection with the rural school. The present-day rural school teacher is commonly a boy or girl not twenty-one years of age, who, in the very nature of the case, cannot possibly have any very profound altruism. The old-time rural school was superior to the present-day one in this respect, for it was administered by a mature man, though he may

not have been superior to the present-day teacher in academic knowledge or educational theory. This altruism must be deep enough and wide enough to include in it all the children and all the people of the community, for their own sakes and for society's ultimate welfare,—not a mere “maudlin” sort of sentimentality, but an intelligent and purposeful sort of altruism which seeks the highest good possible for the whole community life.

Enthusiasm.—The teacher needs enthusiasm for the ordinary classroom exercises, and she needs to keep the enthusiasm of youth, so that she may be able to enter into the spirit of the children's activities, their plays, games, holidays, heroisms, contests, clubs, etc.

Fairness.—The Americans are said to love fair play or a “square deal,” and it is certain that no teacher can succeed ultimately who cannot manage the activities of the school in such a way as to secure fair play and justice for all of its members. The discipline, the recitation, the examination, the fellowships, the school plays, giving of assistance—all present problems where the teacher must have tact and judgment enough to see that equal justice is afforded to all the members of the group.

Reserve.—Inasmuch as the teacher is continually under observation by the school and the community, there is danger that she may become commonplace. In order to avoid this, there should be a little dignity or reserve behind which the school or the community does not feel the liberty to intrude; not a mere attitude of superiority or prudishness, but a sense of self-respect which enables her to hold aloof from the pettinesses of school life and community life.

Scholarship.—A teacher cannot hope to command the respect and admiration of the school or commu-

nity without adequate scholarship, because, primarily, the function of the teacher is that of giving instruction. The ideal teacher, therefore, must have enough knowledge to meet the school and community demands thoroughly. The details of the teacher's preparation will be presented in other paragraphs.

The Voice.—A well-trained voice is almost an absolute prerequisite for effective teaching. Although it is one of the most readily acquired characteristics necessary for success in the schoolroom, yet it is commonly neglected in the training of teachers and by those who employ them. It is important because it may be used with great effectiveness in discipline when it is properly managed. It has much to do with successful classroom technique and adds very much to the pleasure of school life.

Ideals.—Finally, there can be no truly beautiful personality without fine ideals. These ideals must come from a knowledge of the world's history and literature. They must grow out of the experiences within the work, and they must come from a recognition of the social values involved in the business of teaching. We must recognize the fact that the work is not fully and thoroughly appreciated by the children whom we teach nor by the community which we serve; yet the service must be rendered intelligently and earnestly to insure the perpetuity and progress of society.

This brief discussion of the special qualities and characteristics of the teacher is submitted, not with the expectancy that the beginner will find that he has them in a large measure, but with the hope that these important factors of personality may be acquired and elaborated, through years of earnest endeavor.

THE TEACHER'S PREPARATION AND OBLIGATIONS.

We have discussed, in some detail, the personal traits and characteristics which should be cultivated to make a successful teacher. We now propose to treat in some detail the academic, professional, and legal requirements for a good elementary teacher and, at the same time, to point out some of the teacher's important obligations.

Academic Education.—The town or city teacher in elementary schools is commonly a graduate of a good high school and has spent one or two years in a normal school or city training school. In addition to this, some successful apprentice work in the city or successful teaching in rural schools or other towns is usually demanded before a permanent appointment is made in a city system.

Concerning the rural teacher, no such general statement can be made. More than one-half of the two hundred twelve thousand rural school teachers in this country are not graduates of any kind of high school; they have come up through the elementary schools, have prepared for county examinations in various ways, secured a county certificate, and are now teaching some rural school. Nearly one-half of these are teaching on the lowest grade of county certificate, which demands little more than a knowledge of the rudiments of the common school branches. We cast no reflection on those teachers who are trying to do the important work of rural school teaching, but we must urge that rural life needs the guidance of a much wiser teacher than such a scant preparation naturally implies.

Three-fourths of the states are still handicapped by some form of the district system, which presents

many economic and social difficulties. The rural school can never be the agency it should be in rural life until it has undergone reorganization. In thousands of districts in every state the assessed valuation is not great enough to provide support for a good school. Moreover, the outlook and competition of a single district are too narrow to make a problem worth while for a well-trained teacher or leader. Notwithstanding all this, we must send to the country a new type of rural teacher, because the district system cannot be abrogated in many states for a long time. This new teacher must know much more than the traditional common-school subjects. She must know rural school problems and rural school sociology. She must know agriculture, from both a practical and a scientific point of view. She must know about personal and public hygiene and community sanitation. She must know the value of organizing community life into groups, for children and grown people. Rural life needs organization and leadership, and this can best be furnished by the teacher.

Professional Training.—It does not seem worth while to recount the arguments for the professional training of teachers. They are numerous and conclusive. It must be confessed, however, that at times both teachers and school boards seem to forget them. We recognize the value of skill and technique in every other line of activity, and society is willing to pay for them in other professions. Moreover, every state in the Union is committed to the policy of supplying teachers at public expense. Some of the agencies which the state has provided for giving this skill are teachers' colleges in connection with universities and normal schools; teachers' training

classes in high schools (about twenty states have such a provision now); and teachers' institutes and special summer schools. In addition to these there are many voluntary organizations, such as reading circles, extension courses, etc.

This professional training should include some knowledge of elementary psychology with its application to the principles of teaching, a knowledge of elementary school administration, and some careful study of methods relating to the presentation of common-school subjects connected with observation classes in normal schools and city systems. It is also desirable that the observation be extended to the study of actual school conditions in the country or town. It is highly important that the teacher, by this preliminary training, gets the right attitude toward growth, becomes a lover of truth, and develops a keen desire to improve. One thing more: In some way it should be ascertained whether or not the student has actual ability and aptitude in the instruction of children.

Legal Qualifications.—It is a uniform requirement that teachers in elementary schools shall have some sort of license or certificate before they may enter upon the work. Among the various states there is no uniform system for issuing these licenses. County superintendents or county boards of education may grant licenses. A city superintendent or committee commissioned for this purpose may issue them. Graduates of teachers' training courses in high schools are commonly granted a certificate by the state superintendent of schools. In many states normal schools have the power to license teachers for rural schools, and for elementary schools in towns and cities. For high schools they also issue many forms

of special certificates. The state department of education or the state board of education may examine candidates and grant certificates. The school of education in connection with the state university may license teachers. Colleges with departments of education may have their graduates certified by the state superintendent or state board of education.

This enumeration is quite enough to show that the whole certificate situation is in a very chaotic condition and needs to be remedied. Of course, the chief difficulty comes from the fact that all the training agencies mentioned fail to supply enough well-trained teachers, and it is doubtful if any well-ordered system will be evolved until the supply of trained teachers is somewhat nearer the schools' demand. When we study the elaborate scheme for the training of teachers in Germany or France and compare it with ours, we must keep in mind that the supply of teachers in these countries is up to the actual demands of the schools, therefore much care can be taken before new teachers are appointed to permanent positions, and we need to recognize the other fact that securing a position in France or Germany means a permanent appointment.

Duties and Obligations to School Boards.—In a well-ordered city system the elementary school teacher has a most formal relationship with the board of education; but the case is different with the teacher of the rural school. It is her duty to keep the school board fully informed concerning the immediate and prospective needs of the school. The board is the representative of the people and the teacher should make use of it as such. A wise teacher should make her school board feel that the school represents their working co-partnership.

Duties to Parents.—The teacher should remember that she is co-operating with the parents in the education of the children. Primarily, it is the function of the parent to educate the child. Our complex society has turned over this important task to the school and the teacher, but the school and the teacher can never do the work efficiently without the sympathetic interest of the parent. To be sure, it is not possible to go into all the details of instruction with the average parent, but the parent should have such information about the school as will enable him to follow its work with a large measure of interest and intelligence.

Duties to Pupils.—Primarily, the function of the teacher is that of helping children to learn the important cultures which the race has wrought out, especially such parts of these cultures as have significance at the present time. It is highly important that the teacher help the children to form such habits as will be usable throughout life, for if the school is to do anything toward training for efficiency in citizenship, it must furnish both the ideals and the habits which are important for life in a democracy. The teacher must conserve the health of the children, and know that a measure of sympathy and friendship is due each child,—the personal touch necessary for the formation of character.

Duties to the Community.—The teacher should not undertake to do all the community's social work, but she should be a helpful factor in this work. The town boy or girl who goes out on Monday morning to teach a country school and back to town for each week-end will never be a considerable factor in building up community life. We owe our lives to the community. In most communities the grown people

need to go to school as much as the children, and the teacher should be a leader in securing these advantages for the adult population. The precise way in which this school should be carried on for adults is largely a community matter, but the necessity for it exists in every rural community and commonly in every ward-school district in a town or city.

Duties to Self and the Profession.—We owe it to ourselves to make progress, in both knowledge and skill. We owe it to ourselves to take rest and secure such recreation as is necessary for good health and efficiency. We owe it to our fellows to learn to co-operate with them, in orderly ways, to secure a higher degree of professional efficiency.

PROBLEMS FOR STUDY.

1. Give arguments for and against requiring health certificates for all teachers and student prospective teachers.
2. How should the "teaching personality" differ for various grades and kinds of school work?
3. Study your favorite teacher in the light of the ten points on personality in this chapter and arrange her characteristics in the order of their importance. Do the same for the teacher you like least. What conclusions may you draw?
4. Make a list of teachers of an attractive personality who have failed and state why they have failed.
5. Make a list of teachers not having an attractive personality who have succeeded and state why they have succeeded.
6. How prevent the teaching profession being used as a stepping-stone to some other profession?

7. Why does the teacher especially need to be optimistic in her general attitude toward all problems of life?
8. What should be the teacher's attitude toward pupils of poor home training or poor environment?
9. Why is it impossible for a very young teacher to lead in modern community-life movements?
10. To what extent should the teacher participate in the plays and games of the school? Give reasons for your answer.
11. Were you ever the victim of the bad judgment of a teacher? How did this affect your attitude toward the teacher and your school work?
12. Did you ever think that you were mistreated at school and afterwards find that you were wrong?
13. Can the primary teacher be a brilliant success who has poor general scholarship? Cite instances.
14. What academic preparation should one have before beginning to teach a rural school? A city school? What special preparation should she have?
15. Can a teachers' college provide adequate training for teachers in rural schools? What are the advantages and disadvantages in the situation? Can it provide such training for teachers in city and town systems?
16. Consider the above points with reference to normal schools; city training schools for teachers; and teacher-training courses in high schools.
17. Might these conditions be remedied for rural teachers if we had high schools in the country?
18. Tell the different ways that certificates may be obtained in your state. Note the number of certifying agencies and the number and kinds of certificates issued by each.
19. What are the values of a written test in determining

whether or not a certificate should be issued? The oral test?

20. Should certificates be so standardized that they are transferable among states? How might this be done?
21. What should be the basis of permanent appointment of teachers?
22. How may a teachers secure the active co-operation of her board?
23. State some important work which can be done by the board and tell how to get it done.
24. State the ways in which the parents may co-operate with the school. How may the teacher secure this co-operation?
25. What are the values to the teacher, children, and parents in having parents visit the school?
26. What would be the advantages in having the teacher live in the community all the year round? Would it be feasible to provide permanent quarters for the teacher by the community? Give good reasons.

READINGS.

Betts and Hall: *Better Rural Schools*, Part III.

Colgrove: *The Teacher and the School*, Chap. II.-V.

Chancellor: *Our Schools*, Chap. XI. and XIII.

Carney: *Country Life and Country Schools*, Chap. XI.

Cubberley: *The Certification of Teachers*.

Hollister: *The Administration of Education in a Democracy*, Chap. XVIII.

Milner: *The Teacher*.

CHAPTER VIII.

SCHOOLROOM TECHNIQUE.

IN order to succeed it is imperative that the beginning teacher, or even an experienced teacher, should have worked out, with some considerable detail, a method for the management of the more important activities which are to go on in the school-room and in connection with necessary experiences which may take place, growing out of the classroom situation.

Preparation for the First Day.—There are several exceedingly important preliminary matters which should be attended to before the school opens. Among these are the following:

1. The teacher should visit the building and school grounds, to make sure that everything is in readiness for her work. This precaution is advisable whether the teaching is to be done in a one-room rural school or in some room in a city system. Familiarity with the working surroundings will contribute to a feeling of confidence and mastery.

2. The teacher should learn something of the community, if possible, so that she may fit in at once to the fundamental community activities and ideals.

3. The teacher should secure the course of study required for the school if it is a one-room school, and for the grade or grades if she is to teach one or more grades in some graded school. She should familiarize herself most thoroughly with the more important

features of the work to be required for the year. If she is to teach in a one-room school, by all means a most careful study should be made of the requirements for the particular year, so that she will undertake the classification of her pupils with confidence.

4. The teacher should secure the register left by the preceding teacher and familiarize herself with the previous classification of the children who are to attend the school. Usually this record may be secured from the district clerk in rural schools, and in the graded village and city schools the records are commonly kept by the principal or superintendent, and are supplied at the teachers' meeting held prior to the opening of the school.

5. The preliminary program for the day's work should be put on the board sometime before the first day of school, so that everybody may see that they are ready for work.

6. The teacher should have most definitely in mind plans for the first day's activities, including assignments, recitations, intermissions, playground activities, etc.

7. If possible, the teacher should secure a satisfactory boarding-place before the opening of the school. Sometimes in the country this is no easy matter, and it has much to do with the success of the teacher. She should have a good comfortable room in which she can work and rest, and it should be near enough to the school to present no serious inconvenience in bad weather. In some communities no suitable home may be near enough to the school to serve as a satisfactory boarding-place for the teacher, and it is quite possible that many homes situated near enough to the school do not care to board the teacher, because of the trouble it

makes. However, it is imperative for successful school work that the teacher have a good home in which she can be comfortable and contented. The United States Commissioner of Education, Claxton, is advocating the construction of teachers' permanent homes in rural communities, as the only final solution of this and certain other rural school difficulties.

The First Day of School.—The first day of school presents a most important and interesting situation for the new teacher. However much planning has been done for the day there will surely arise some very interesting and unexpected developments. It is the day in which the teacher is being "sized up" by the children and she is trying to "size up" the children. It is all-important that the teacher should go about the work with an attitude of mastery and confidence. To hesitate, doubt, or question usually means failure.

The teacher should get to school very early; in fact, before any of the children arrive, and be ready to greet them with pleasure and earnestness. In general it is not advisable to make any extended speeches about the school or its work. It is much better, on the whole, to put into execution the plans which have been carefully laid out for that day's work.

If the teacher can do it, she should plan an interesting opening exercise for the first day. If she knows something about music and can read effectively she should utilize these accomplishments in the first day's opening exercise. The singing of one or two appropriate songs will go far towards setting things at ease and unifying the spirit of the school.

The teacher should not forget to start the work

with enthusiasm and earnestness, even if she is homesick unto death and it is her very first undertaking of a difficult task. She must summon all her courage and go about the task as if it were the finest piece of work ever committed to her keeping. She must not act like a galley-slave set to a task. She will fail if she does. She should remember that the school belongs to the community and the children and not to the teacher. She should begin at once to make it an object of interest and pride, and keep on throughout the year, striving to increase the interest in it as the community's most important institution.

Daily Program.—A good daily program, which provides for the periods of both recitation and study, is very necessary for effective school administration.

Values of a Good Program.—A good program leads to regularity of habits in the matter of study and thus saves time for both the teacher and the pupil. A systematic schedule or program enables the work to be done with a minimum amount of immediate thought on the part of the teacher and removes needless friction and waste.

Important Factors in Constructing a Program.—Among the more important factors to be considered in the construction of a daily program are the following: Length of the school year, length of the school day, the time which may be given to recitations and intermissions, the required subjects for the year, the laws of fatigue, the special exercises of the school, and the number of pupils enrolled.

The individual teacher in a thoroughly organized county school system or city school system may not have very much to do with the making of her daily program. In schools where the county organization

is effective the program is usually furnished by the county superintendent or the state superintendent, depending on the source from which the course of study is obtained;—at least, this is the prevailing practice in many states.

If the county superintendent or state superintendent has a scheme in alternation or correlation, it is absolutely necessary for the teacher to make a program in keeping with these requirements. In a city system rough drafts of the daily program of the elementary school work are generally sent from the city superintendent's office to the principal, and he, in consultation with the room teacher, makes the final program for the grade. Notwithstanding these facts, it is well to state in some detail the more important principles which ought to be considered in making up a good program.

The relative importance of the various subjects which go to make up the curriculum is a matter which should be given consideration. The order of recitations should be made on the basis of the importance of the various subjects, taking into account the difficulty of these subjects with their relation to fatigue and play.

To be sure, we do not know so very much about the relation of subject matter to fatigue; however, we do know that after a brief period of "warming-up" early in the morning the children do much better work than when they have been working a long time. We know also that subjects which require a certain amount of manual dexterity, such as writing, drawing, and manual training, should not be undertaken immediately after children have been playing very hard. Some experiments in fatigue tend to show that about 11 o'clock in the morning is the best

working period of the day. Whether we use a subject as a *drill* subject or a *content* subject, or an incidental or by-product subject, should be considered when we undertake to make a good program. The total number of recitations taken by the teacher and the children should receive attention.

In general, rural school teachers have too many subjects and, as a result, the time for each recitation is too short for effective teaching. A short time ago the author saw a rural school program on which there were listed thirty-two recitation periods per day. Of course this was a farce. If possible, the number of recitations in a rural school should be brought down to twenty or fewer.

There seems to be no standard way in which programs are constructed, therefore it might be interesting and profitable if some of the more standard types were offered for study and criticism. The course of study for elementary schools in the state of Pennsylvania, prepared by the Department of Instruction for the year 1914, gives the following:

The minimum number of minutes to be devoted each week to the different activities of the several grades in school.

Years or Grades.	1	2	3	4	5	6	7	8
Opening exercises.....	75	75	75	75	75	75	75	75
Reading and literature.....	450	420	360	300	240	180	150	150
Language.....	75	75	75	100	100	150	150	150
Spelling.....	00	75	75	75	75	100	100	100
Penmanship.....	75	75	100	100	75	75	75	75
Arithmetic.....	75	100	150	150	150	150	150	150
Geography.....	00	00	00	100	100	100	120	120
Nature study.....	50	50	50	...	...	...	...	...
History.....	50	50	50	50	100	120	120	120
Drawing and Constructive Work	150	150	150	150	150	150	160	150
Physical education.....	75	75	75	75	75	75	75	75
Physiology.....	45	45	60	60	60	60	60	60
Recess.....	75	75	75	75	75	75	50	50
Music.....	75	75	75	75	75	75	75	75
Unassigned time.....	240	160	130	115	150	160	150	150

The length of the school day according to the time allotment in this schedule is five hours; as the length of the day varies in the several grades of different school systems, the amount of unassigned time will vary, allowing less for a shorter day and more for a longer one.

It will be observed that this program provides only a statement of the number of minutes to be devoted each week to the different activities in the several grades of the school. Undoubtedly this is only a general direction, from which a specific program would have to be made.

The "Course of Study and Manual of Methods" for the elementary schools of Iowa, issued by the Department of Public Instruction in 1913, offers the program for rural schools given on pages 82 and 83.

This program provides in detail for all of the work of the school, including recitations, studies, and occupations as well. The organization of the school is made in five divisions,—the *E* Division including first-year students, the *D* Division including the second-year students, the *C* Division including the third- and fourth-year students, the *B* Division including the fifth- and sixth-year students, and the *A* Division including the seventh- and eighth-year students.

It will be noted that this program shows a schedule for twenty-eight daily recitations, undoubtedly too many for the best work if all recitations are given each day. However, the course of study suggests some combinations of classes to reduce the number and also some alternation of subjects in such a way as to have them come only two or three times per week. For example, it is advised that writing and drawing may be alternated, three lessons a week being given to writing and two to drawing.

One of the other very interesting features of the Iowa course for the year 1913 is an outline of the six groups of subjects arranged by grades. The outline is of enough interest to reproduce here (p. 84), and, in connection with it, we reproduce a table showing the time factor in relation to these groups.

PROGRAM FOR RURAL SCHOOLS.

Recitations.			Study and Occupations.				
Begin.	Minutes.	Classes.	E Division 1st Year.	D Division 2nd Year.	C Division 3rd & 4th Years.	B Division 5th & 6th Years.	A Division 7th & 8th Years.
9:00	5	Opening Exercises All Divisions.					
9:05	10	E Reading.....		Reading.....	Reading.....	Arithmetic.....	Arithmetic.....
9:15	10	D Reading.....	Copying.....		Reading.....	Arithmetic.....	Arithmetic.....
9:25	15	C Reading.....	Blackboard Work	Copying.....		Arithmetic.....	Arithmetic.....
9:40	20	B Arithmetic.....	Hand Work.....	Blackboard Work	Arithmetic.....		Arithmetic.....
10:00	15	A Arithmetic.....	Hand Work.....	Hand Work.....	Arithmetic.....	Reading.....	
10:15	15	C Arithmetic.....	Play.....	Play.....		Reading.....	Spelling.....
10:30	15		RECESS.				
10:45	10	E Numbers.....		Drawing.....	Language.....	Reading.....	Reading.....
10:55	10	D Numbers.....	Number Work..		Language.....	Spelling.....	Reading.....
11:10	15	B Reading.....	Drawing.....	Number Work..	Language.....		Reading.....
11:25	15	A Reading.....	Play.....	Play.....	Library Work...	Spelling.....	
11:35	10	C Language.....	Copying.....	Copying.....		Geography.....	Library Work...
11:45	15	Writing & Draw'g. All Divisions.					
12:00	60		NOON.				

PROGRAM FOR RURAL SCHOOLS—CONTINUED.

Recitations.			Study and Occupations.				
Begin.	Minutes.	Classes.	E Division. 1st Year.	D Division. 2nd Year.	C Division. 3rd & 4th Years.	B Division. 5th & 6th Years.	A Division. 7th & 8th Years.
1:00	10	E Reading.....	.....	Library Work...	Arithmetic.....	Geography.....	Geography.....
1:10	10	D Reading.....	Blackboard Work	.....	Arithmetic.....	Geography.....	Geography.....
1:20	15	B Geography.	Written Work...	Blackboard Work	Nature Study...	.....	Geography.....
1:35	10	A Geography.....	Hand Work.....	Hand Work....	Nature Study...	Language.....	.....
1:45	10	C Agriculture and Nature Study...	Play.....	Play.....	.....	Language.....	Grammar.....
1:55	10	E and D Agriculture & Nature Study	.....	.....	Drawing.....	Language.....	Grammar.....
2:05	15	B & A Agriculture	Hand Work....	Hand Work....	Spelling.....	.....	.....
2:20	10	Music or Oral His- tory. All Divisions.	.....	.....	.....	.....	.....
2:30	15						
RECESS.							
2:45	10	D Language.....	Copying.....	Copying.....	Spelling.....	.....	Grammar.....
2:55	10	A Grammar.	Picture Work...	Copying.....	Spelling.....	Physiology.....	.....
3:05	10	C Spelling.....	Play.....	Play.....	.....	Physiology.....	History.....
3:15	10	B Physiology....	Play.....	Play.....	Reading.....	.....	History.....
3:25	10	A History.....	Copying.....	Picture Work...	Reading.....	Library Work...	.....
3:35	10	B & A Spelling...	Drawing.....	Drawing.....	Drawing.....	.....	.....
3:45	15	General Lesson... All Divisions.	Hand Work and Manual Arts...	Hand Work and Manual Arts...	Hand Work and Manual Arts...	Household Arts and Hand Work	Household Arts and Hand Work.

OUTLINE OF THE SIX GROUPS OF SUBJECTS ARRANGED BY GRADES.

Groups and Studies	First Year.	Second Year.	Third Year.	Fourth Year.	Fifth Year.	Sixth Year.	Seventh Year.	Eighth Year.
1. Language Group	Reading Language Phonics Writing	Reading Language Spelling Writing	Reading Language Spelling Writing	Reading Language Spelling Writing	Reading Language Spelling Writing	Reading Language Spelling Writing	Reading Grammar Orthography Writing	Classics Grammar Orthography Writing
2. Science Group	Nature Study Physiology and Hygiene	Nature Study Physiology and Hygiene	Nature Study Physiology and Hygiene	Geography Physiology and Hygiene	Geography Physiology and Hygiene	Geography Physiology and Hygiene	Geography Physiology and Hygiene	Geography Physiology and Hygiene
3. Mathematics	Numbers	Numbers	Arithmetic	Arithmetic	Arithmetic	Arithmetic	Arithmetic	Arithmetic and Business Forms
4. History and Civics	Oral Lessons	Oral Lessons	Oral Lessons	Oral Lessons	Oral Lessons	History	History	History and Civics
5. Art Group	Music Drawing	Music Drawing	Music Drawing	Music Drawing	Music Drawing	Music Drawing	Music Drawing	Music Drawing
6. Vocational Subjects	Elementary Agriculture Hand Work	Elementary Agriculture Hand Work	Elementary Agriculture Hand Work	Elementary Agriculture Construction Work	Elementary Agriculture Construction Work Domestic Science	Elementary Agriculture Manual Arts Domestic Science	Elementary Agriculture Manual Arts Domestic Science	Elementary Agriculture Manual Arts Domestic Science

The following division of time among the six groups of studies is suggested:

Groups of Studies	Per Cent of Time for Each Group	Number of Minutes for Each Group
1. Language	40 per cent	130 minutes
2. Science	12 per cent	40 minutes
3. Mathematics	15 per cent	50 minutes
4. History	10 per cent	35 minutes
5. Art	8 per cent	25 minutes
6. Vocational Subjects	15 per cent	50 minutes

We include one more program (p. 86), taken from the "State Course of Study for the Rural and Graded Schools in the State of Missouri," as published by the State Superintendent for the year 1915.

It will be noted that this suggested program provides for both recitation periods and study periods. The course of study is outlined in such a way as to make provision for four classes or groups of children, —Class *D* for the first and second years, Class *C* for the third and fourth years, Class *B* for the fifth and sixth years, and Class *A* for the seventh and eighth years. The recitation program arranges for twenty-six recitations, too many if all are to be heard each day. However, Missouri has an alternating scheme which is also shown here. This enables a very considerable reduction in the number of recitations required for each day.

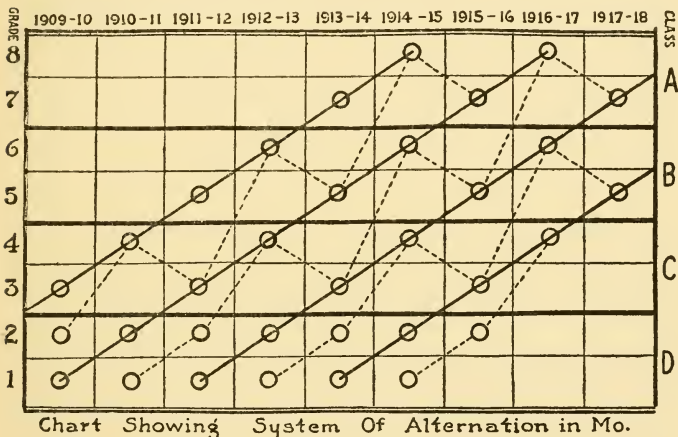
Alternation is the systematic and regular union of two grades of pupils, both grades doing the work

SUGGESTED DAILY PROGRAM FOR STUDY AND RECITATION.

		Study Program.						
Begin	Time Minutes	Recitation Program	Class D. Years 1-2			Class C. Years 3-4	Class B. Years 5-6	Class A. Years 7-8
8:50	10	Opening Exercises and Music, All.						
9:00	20	A Arithmetic.	Reading.			Reading.	Reading.	
9:20	10	D Reading, Grade 1.	Reading, 2.			Reading.	Reading.	Grammar.
9:30	10	D Reading, Grade 2.	Board work, 1.			Reading.	Reading.	Grammar.
9:40	15	C Reading.	Board work.				Reading.	Grammar.
9:55	15	B Reading.	Reading and Spelling.			Arithmetic.		Grammar.
10:10	20	A Grammar.	Play.			Arithmetic.	Arithmetic.	
10:30	10	RECESS.						
10:40	10	D Reading, Grade 1.	Reading, 2.			Arithmetic.	Arithmetic.	His. & Gov't
10:50	10	D Read. & Spell., Gr. 2	Board work, 1.			Arithmetic.	Arithmetic.	His. & Gov't
11:00	12	C Arithmetic, Grade 3.	Seat work.			Arithmetic, 4.	Arithmetic.	His. & Gov't
11:12	13	C Arithmetic, Grade 4.	Seat work.			Geog. and Nat. Study, 3	Arithmetic.	His. & Gov't
11:25	15	B Arithmetic.	Reading and Numbers			Geog. and Nat. Study		His. & Gov't
11:40	20	A History and Gov't.	Play.			Geog. and Nat. Study	Geog. and History.	
12:00	60	Noon.						
1:00	5	Music, All.						
1:05	15	C Geog. and Nat. Study	Read. and Nat. Study.				Geog. and History.	Ag. or Phys.
1:20	15	D Read., N., & N. St.				Read., Lang., and Spell	Geog. and History.	Ag. or Phys.
1:35	15	A Agr. or Phys.	Board work.			Read., Lang., and Spell	Geog. and History.	
1:50	20	Writing or Drawing, All.						
2:10	15	B Geog. and History.	Play.			Read., Lang., and Spell		Geography.
2:25	10	RECESS.						
2:35	15	C Read., Lang., and Sp.	Manual work.				Nat. S. or Physiology	Geography.
2:50	15	A Geography.	Manual work.			Manual work.	Nat. S. or Physiology	
3:05	10	B Nat. S. or Physiology	Manual work.			Manual work.	Lang. and Spelling.	Read. & Sp.
3:15	10	D Story Hour, Gr. 1.	Language, 2.			Manual work.	Lang. and Spelling.	Read. & Sp.
3:25	10	D Story Hour, Gr. 2.	Language, 1.			Manual work.	Lang. and Spelling.	Read. & Sp.
3:35	20	A Read. and Spell.	Dismiss or Play.			Dismiss or Play	Lang. and Spelling.	Arithmetic.
3:55	15	B Lang. and Spell.						

NOTE. — No alternation should be attempted in arithmetic in the 5th and 6th grades if the number of pupils in both grades is more than 10, or if there is a great difference between the grades in the knowledge of the subject.

of one year in one class, while the other year's work is omitted. The next year the work omitted is taken up and the first year's work dropped. In this way each pupil does all the work of the course, but not all in the same order, and the number of classes is greatly diminished, the recitation periods lengthened and more efficient work done.



Undoubtedly we have yet much to learn in the making of programs for rural schools. For example, the schools of Iowa are organized on a five-group plan, while those of Missouri are on a four-group plan, and both daily programs show entirely too many recitations for effective instruction. No reformation, however, can be brought about in this particular until there is a critical and careful reorganization of the subject matter of the elementary curriculum for rural schools. Some discussion of this important problem is given in the chapter on "The New Curriculum."

Rules for Government.—In the old-fashioned school

large emphasis was put upon the "framed" set of rules. It is no longer common to have this set of rules, with the specific punishments for the breaking of each one, and yet an examination of almost any recent manual will show a good long catalog of rules and duties for both teachers and pupils. Recently the author examined as many as twenty manuals, published by schools having a first-class high school. He was astonished to find the great amount of detail in rules and regulations for both the teacher and the pupils. A recent study of several rural schools revealed the fact that they, too, were administered under a very elaborate code of rules.

In both cases it seems to the writer that the spirit is entirely too military and machine-like to provide for the necessary freedom and responsibility which ought to characterize public institutions which are trying to train citizens for a democracy. To be sure, we must recognize the fact that children are immature and do not know the positive values of life, even in a free country, as thoroughly as do adults. Nevertheless, if the maximum amount of training for citizenship is to be secured, the rules themselves under which the school is administered must be of such a simple nature that the children will recognize the fairness and value of them. Some detailed discussion of these principles has been made in the chapters on "Moral Training" and "Discipline." It seems perfectly clear, however, that a few simple rules, which can be understood and appreciated readily by the children and the community, will furnish the best basis for a happy and efficient school life.

Securing Regular Attendance.—It is important that the school should be managed in such a way as to

insure regular attendance of the pupils. Sometimes this is difficult to do, because the work is uninteresting and because the parents and the community do not recognize the great importance of regularity in attendance for the successful completion of the work. Many investigations show that irregular attendance is directly responsible for pupils' having to repeat the grade, for poor work, and for dropping out of school. Among the best solutions of the problem known are those of making the work as attractive and interesting as possible, securing the co-operation of parents, and the exercising of the teacher's personal interest in the direct welfare of each child.

In extreme cases it may become necessary for the teacher to make use of the compulsory attendance law, if one has been enacted by the state. However, this should be the last resort, and it is not at all certain how much value can come to children when they have been coerced into school under such conditions; indeed, not much value can come unless such children can finally be interested in the work of the school.

PROBLEMS FOR STUDY.

1. Write a set of principles for the management of the school.
2. Discuss some absurd rules you have known or heard about.
3. Criticise the daily programs submitted, basing your criticism on the discussion in this chapter.
4. Make an ideal daily program for a one-room country school.

5. What are the advantages and disadvantages of trying to make use of a course of study prepared by the State Superintendent?
6. What are the common symptoms of fatigue?
7. How often should the school have daily intermission for rest or play?
8. Discuss the statement "All rules for the school should be made considering the welfare of the individual and the group."

READINGS.

Bagley: *Classroom Management*, Part I.

Colgrove: *The Teacher and the School*, Part II.

Dutton: *School Management*.

Seeley: *A New School Management*, Chap. II.-VI.

CHAPTER IX.

SCHOOLROOM TECHNIQUE (*Continued*).

The Recitation.—Undoubtedly, the recitation is the most important schoolroom exercise. Some simple form of machinery is necessary to economize time and secure orderliness in bringing the pupils to the recitation and sending them back to their seats again. The machinery should be as simple as possible and take up the minimum amount of time. The days of the call-bell, the “Ready—rise—pass.” Or the “One—two—three,” in which we demanded that all pupils should respond with military precision, are gone never to return. We do not move that way out in life and the school should not try to set up any such formal method of action. If the spirit of the school is what it should be, all that will be necessary is to call the name of the class, allow a minute for books and other material to be put in order, and then the recitation proper should begin.

Ideally, the children should keep their regular seats for the recitation period, and the old recitation bench, which has sometimes very properly been called the “mourners’ bench,” should be sent to the scrap-heap. It may be necessary with very small children to have some change in position, for efficiency, but, if the room is properly seated, the best place to recite is from the regular desk or chair.

In regard to the conduct of the recitation, it is perfectly well understood nowadays that the nature of the class exercises should determine somewhat

the method of calling on the pupils to participate in the class work. In any case the method should provide for variety and interest, as any formal or serial scheme tends to destroy these.

The Objects of the Recitation.—Primarily, the recitation presents a situation involving three important factors,—the teacher, the student who is to do the talking, and the other group of children who belong to his class. Undoubtedly, the most important function of the recitation is to be found in its adaptation to the end that the group of students, under the teacher's guidance, may obtain the largest amount of knowledge and experience during the period of its duration.

Many detailed statements concerning the objects or aims of the recitation have been made by schoolmen. One of the most valuable is that classic one made by the late Commissioner William T. Harris. He says the aims of the recitation are:

1. To draw out each pupil's view of the lesson and to test his grasp of the subject.
2. To correct the pupil's wrong impressions and enlarge his horizon by comparing his views with those of the other members of the class.
3. To arouse interest in the next lesson, to stimulate pupils to study it and direct their study.
4. To cultivate the habit of close and continuous attention.
5. To bring out the teacher's highest powers as an instructor and leader.
6. To supplement what the pupil gives.
7. To inspire self-activity, power of independent study, and keen insight.
8. To teach pupils the great advantage of helpful co-operation with others.
9. To help the pupil to overcome individual peculiarities.

The Assignment.—The importance of the assignment as related to the recitation is so great that it calls for a brief separate discussion.

It has been said that the three tests of any assignment are: 1st. Is it explicit? 2d. Is it discriminating? 3d. Is it adapted to the student's time for preparation and his present ability and needs?

There is no doubt that much time is wasted by children because of poor assignments. To state the material suggested by these questions in another way, it may be said that every assignment should be made with much definiteness and set some problem which will challenge the children to make its solution.

The assignment should be such as to clear up the difficulties which will cause pupils to waste time, but it should not do all of the work for the children. A good assignment will always connect the new problem with the previous knowledge of the pupil in this and other subjects. In the primary grades it is usually best to make the assignment at the close of the recitation, but with mature students it may be made at the beginning of the class work.

Questioning.—Skill in questioning is a most important teaching asset. Some of the more important characteristics of good questions should be noted. 1. A good question always sets a problem for solution. 2. Superior questions demand thinking on the part of the pupil. 3. Questions should be definite, so that the teacher, the pupil, and the class may know when an adequate answer has been made. 4. Questions should not be asked in such a form as to indicate in any way the probable answer to them. Moreover, the teacher's attitude during the questioning should be such as not to indicate anything

concerning the correct answer; otherwise the child will soon learn to go on with the recitation only as he secures the approval of the teacher, with a favorable smile or nod. I have seen a grade in which all of the children were mere "question-marks," because they could recite only when the teacher encouraged them by smiles, nods, and definite words of approval. 5. After questioning, the teacher should not repeat the answers given by children. If the answer is unsatisfactory, she should let another member of the class clear it up, and, even if it should be repeated, it is much better to have it done by some other child than by the teacher. 6. Of course, all questions which may be answered by "Yes" or "No" should be avoided.

Some examples of good questions are as follows:

1. Give a brief account of the settlement of Jamestown.
2. Describe the landing of the Pilgrims.
3. Tell how to sow wheat.
4. How do you make a kite?
5. What important lessons may be learned from "The Village Blacksmith"?
6. What are the values of the study of Manual Training?

Correlation and Alternation.—As was indicated in some of the paragraphs concerning the daily program, alternation and correlation are almost absolutely necessary to the procedure of instruction in a one-room rural school.

The North Dakota course of study for the common and graded schools expresses the purposes of correlation and alternation as follows: 1. To reduce the number of recitations daily, thus allowing longer recitation periods. 2. To increase the size of classes, thus increasing the interest of the recitation. 3. To

bring together the work of related subjects and thus to unify and inter-relate the various parts of the pupil's knowledge.

The Missouri daily program (quoted in another place) provides for alternation, by years, throughout the eight grades of the elementary rural school. A brief study of that program will indicate the way in which this is accomplished.

The Kansas course of study for rural schools explains alternation as "the systematic and regular union of two grades of pupils of consecutive years' work, both doing the work of one year in one class while the other year's work is entirely omitted; the next year, the work omitted is taken up and the first year's work dropped." By this plan each pupil does all the work in the course, but not in the same order, while the number of classes is greatly diminished. It often happens that the classes in country schools are small. If the class is very small, it is hard to maintain the proper degree of interest and to get work of the right character done. The plan of alternation increases the number of pupils in the class and makes the work more interesting to them.

There are some objections urged, with great earnestness, and, at times, violence, against alternation, because it puts pupils of quite different ages and degrees of capacity in the same class. In some communities this causes much discontent, primarily because of a lack of understanding of the values of the scheme. A very skilful teacher will be able to manage the class so that the younger pupils will be benefited rather than injured by this arrangement, and the older ones will acquire a helpful attitude towards the younger ones.

Some plan of alternation is now being tried out in

almost all of the states in the one-room rural schools. These plans are not perfect, or even satisfactory, but in many respects they are the best solution which has yet been proposed for a crowded daily program and a school with only a few children in it.

The chief *correlations* to be made are: in the different parts of the same subject; among different subjects in the curriculum; and between the school and the home.

We should remember that life is a unified thing—not made up of compartments or “pigeon holes”—and therefore our knowledge should be presented in such a way as to take this unity into account. Much waste is occasioned by lack of organization in a single subject, such as arithmetic or grammar, and still more waste is occasioned by a poor correlation among the various subjects of the elementary school.

Promotion.—The school should be organized in such a way as to permit promotions as often as possible, as this provides for the best grouping of children for their work. However, the one-room rural school, with a few children, cannot make promotions more than once a year. A great many city systems may make promotions three or four times a year, and almost any village or town system may probably make promotions twice each year.

Basis for Promotion.—In determining whether or not a pupil should be promoted to the next grade or section, we usually take into consideration his daily work in the recitation and the oral or written tests, given monthly or by terms. Sometimes one or the other of these is the sole basis for promotion, and since there is no consensus of opinion about the proper combination of the two, we find them employed with all possible degrees of emphasis. It

should be borne in mind that these are mere devices, having no inherent value, and that any one of them, or a combination of the two, should be used only for the purpose of trying to determine the preparedness of the pupil for the next work. The main thing is to do justice to the pupil and secure for him the best position for work and growth. No device of any kind should ever be used in such a way as to preclude the promotion of a pupil, if we are certain he can do the work of the next grade or section.

Grading Schemes.—In determining promotions it is common to use some grading scheme. The figure schemes, which include rankings from *1* to *10* and per cents. from *60* or *70* to *100*, are in common use. All figure schemes offer some difficulties, because it is hard to make them tell the whole truth. They are very arbitrary, and the teacher is prone to put his own interpretation upon their meaning. Notwithstanding this, they are much used. There are several letter schemes in very common use—for example, *A*, *B*, *C*, *D*, and *E*. Sometimes there is a correlative figure scheme to give significance to these letters, and sometimes they merely represent rankings. Also we have the letters *E*, *G*, *P*, and *F* used. They are supposed to denote a quality of work, but they are quite unsatisfactory for the reason that they are difficult to understand with any great measure of certainty. In discussing records, we have pointed out the need for some better system than either of these. A few attempts have been made to put grading on a scientific basis, but they are too crude and unsatisfactory to be employed by the ordinary teacher.

Use of the Library.—Where there is a library connected with the schoolroom, it is necessary to

provide some plan for the use of the books, in order to avoid confusion and at the same time secure a fair distribution of the privileges which the library affords. The use of the dictionary and other laboratory material may demand some formal arrangement to secure effective use, but the simplest workable formula should be provided for such matters. The author well remembers a second grade teacher who put supplemental material on a table in the back of the room. Sometimes this material was a map, sometimes supplementary reading or laboratory material for nature study or number work. The only rule that was ever made about it was that but two children should work at the table at the same time and that they must do their work quietly and return to their seats promptly. The plan was a complete success, due in a large measure to the spirit of the room, caused by the personality and efficiency of the teacher.

Leaving the Room.—It is necessary to provide some plan by which children may be excused from the room. This is sometimes difficult to do, because some children require special treatment. A hard-and-fast rule may work great harm and injustice; indeed, it may be positively detrimental to the health of the child. The teacher should be wise enough to secure some plan which will not work a hardship and, at the same time, will not allow children to abuse the privilege and waste their time.

Getting Water.—The school plant should be provided with sanitary drinking fountains and there should be enough of these to allow all children to get a drink at recess or intermission, without having to wait too long. If a bucket is used, individual drinking-cups should be provided, as there is no

other agency which spreads contagious disease as does the public drinking cup. In very warm weather we demand more water than in cold weather, therefore it may be necessary for children to have a drink of water between intermissions if the weather is very warm. In such cases it is well to let the whole school rest a moment and get a drink of fresh water.

Fire Drill.—Even a one-room rural school should have a fire drill at least once or twice a month. The drill is good because of orderliness which develops from it and in case of fire or storm it is absolutely necessary to insure protection. In the towns or cities it is imperative that well-organized fire drills be given at least two or three times per month.

Distribution of Material.—Some simple scheme for the collection and distribution of writing and drawing material is usually necessary unless pupils have individual desks with locks upon them. Usually monitors should be appointed to distribute and collect the more important bits of material. Sometimes it is desirable to have a monitorial system for the distribution of wraps, dinner-pails, etc., before passing the children out of the schoolroom.

School Records.—No adequate system of school records has yet been devised for rural schools and village or town schools. Recently a committee of the National Education Association worked out a very elaborate and complete system of records for city schools, but these records cannot be used in the rural school or the small town. For the rural school we should have a permanent record for the teacher and the clerk of the school district. The clerk should be the custodian of the teacher's record during vacation, and it should be his duty to see that it is put into the new teacher's hands several

SUGGESTED FORM OF REPORT CARD (LOWER PART).

TO PARENTS.		CERTIFICATE OF PROMOTION.	
<p>You will assist the teacher very much by co-operating during the school year in the following plan:</p> <p>Under "Industrial Work" please report to the teacher each quarter the progress made by your child at home in the different divisions there outlined, using the letters E, G, M, P to denote excellent, good, medium, poor, respectively.</p> <p>.....Teacher.</p> <p>.....County Supt.</p> <p>Parent's Signature.</p>		<p>This certifies that</p> <p>.....</p> <p>has completed the work outlined in the State Course of Study for the grade, and is hereby promoted to the grade.</p> <p>.....Teacher.</p> <p>.....County Supt.</p> <p>Teacher's Signature.</p>	
I Qr.....	I Qr.....	I Qr.....	I Qr.....
II Qr.....	II Qr.....	II Qr.....	II Qr.....
III Qr.....	III Qr.....	III Qr.....	III Qr.....
IV Qr.....	IV Qr.....	IV Qr.....	IV Qr.....

days before the beginning of the school term in the fall, so that the teacher may familiarize herself with the facts in it before the opening of school. The record should include the name and daily attendance of each pupil, and, in case the student is dropped from the record during the term, the date and cause should be stated. The record should denote accurately the scholarship of each student, with some of the more striking individual characteristics of the student. A record which shows only the standing of the pupil in percents and letters is of small value to a new teacher, consequently some other facts should be given. Records should show the exact grading or classification of the school. A duplicate of this record should be the property of the Board of Education in the district.

A monthly or quarterly report of the record of each student in scholarship, attendance and deportment should be sent to the parents. To be of much significance, the scholarship record should show, in addition to the ordinary grade, the ranking of the student in his class, for the reason that letters and percents are of small value in describing the student's record unless they are considered in connection with the group or class standing. In addition, this record should show something concerning the home tasks, the grades for which are given by the parents. In the "State Course of Study for the Rural and Graded Schools in the State of Missouri" for the year 1915, a suggested form of report card is printed. With considerable modification, I present that card to illustrate this discussion (pp. 100 and 101).

Another record should be kept by the teacher and turned over to the district clerk at the close of each term, in which there is a complete catalog of

all the books, pictures, and other apparatus of the school. It is a common complaint that it is hardly worth while to buy school equipment, as it is not taken care of by the teacher or the children. Such a record would furnish the board a definite way in which to keep an account of the school equipment.

One other interesting record of an historical nature should be kept, in which is described all the special days observed by the school and the more significant activities of community life. If the school becomes a real community center, that record would eventually come to be very interesting and valuable.

Summary. — It should be recognized that all of the foregoing principles are not an end in themselves, but merely a means to securing suitable working conditions for the group. The children should be made to understand that these rules and schemes are primarily for the purpose of enabling them to work in the best way possible; that they are not devised for the teacher, or because the teacher wants them for herself, or because even a single child wants them; but because a group is trying to work together, rules defining the rights and privileges of its members are necessary. This spirit should pervade the whole schoolroom organization.

PROBLEMS FOR STUDY.

1. State objections to the requirement that all children should move in the schoolroom under the same definite signals.
2. Work out a good plan for the use of the school library.
3. What scheme would you adopt to excuse children

from the schoolroom? For getting drinks? Sharpening pencils? Disposing of waste paper?

4. What are the essentials of a good fire drill?
5. Describe a good monitorial service for the schoolroom.
6. What facts about the school and school children should be sent to the parents? Given general publicity?
7. In a county system what records should be kept for the county superintendent?

READINGS.

Bagley: *Classroom Management*, Chap. III., V.-VII., and XIII.

Colgrove: *The Teacher and the School*, Chap. IX., XI., and Part III.

Dutton: *School Management*, Chap. VI.-IX. and XIX.

Seeley: *A New School Management*, Chap. VI.-XVI.

CHAPTER X.

PSYCHOLOGICAL FACTORS INVOLVED IN THE PROCESSES OF INSTRUCTION.

No elaborate discussion of the various phases of psychology can be undertaken in such a brief text as this, but it is necessary to present some of the more salient features of that important science, inasmuch as they underlie the entire learning process.

There are three major planes of human action or behavior. To state them in the simplest terms, these classes of actions may be denominated reflexes, instincts, and thinking or ideation.

Reflex Actions.—On the lowest plane we say that certain actions, such as breathing, circulation, digestion, winking, swallowing, the sucking and crying of a baby are reflexes. No conscious volition of any kind is necessary for the performance of these acts. We may conclude that all of these activities are directly the results of heredity, consequently we have very little if anything to do with them in the process of education. With only slight qualification we may say that almost all of these actions are performed with as much certainty and efficiency at birth as at any time.

Instinctive Actions.—Instinctive actions differ from reflex actions only in the nature of their complexity. Several reflexes are woven together to form an instinct. It is common for the psychologist to speak of instincts as race habits, therefore it is proper to consider them as inherited actions or responses,

much like reflexes. Unlike reflexes, however, instincts concern us much in the processes of education.

Classification of Instincts.—Angell¹ has made the following simple classification of instincts: fear, anger, shyness, curiosity, affection, sexual love, jealousy and envy, rivalry, sociability, sympathy, modesty, play, imitation, constructiveness, secretiveness, and acquisitiveness.

Colvin & Bagley² have made the following very interesting classification: (1) Adaptive Instincts, including curiosity and play; (2) Individualistic Instincts, including fighting, anger, hate, pride, vanity, arrogance, and shame; (3) Sex and Parental Instincts, including sexual and parental love, sex jealousy, and grief; (4) Social Instincts, including rivalry, grouping or gregariousness, co-operation, altruism, envy, emulation, sociability, loyalty, pity, sympathy, grief, and remorse; (5) Religious Instincts, including feelings of reverence, humility, and veneration; and (6) Æsthetic Instincts, which include the feelings of rhythm, harmony, ecstasy, admiration and rapture.

Colvin & Bagley³ have worked out from this classification a very interesting table which gives the name of the instinct, its physical expression and the normal feelings which may accompany this expression and emotion, and also the emotion aroused by blocking or thwarting the adequate expression of the instinct. We present the table herewith:

¹ Angell: *Textbook of General Psychology*, p. 297.

² Colvin & Bagley: *Human Behavior*, pp. 128-138.

³ *Ibid.*, pp. 137 and 138.

Name of Instinct	Physical Expression	Normal Feeling Accompanying Adequate Expression	Emotion Aroused by "Blocking" of Adequate Expression
<i>Adaptive:</i>			
Imitation.	Copying acts of others.	Admiration.	Vexation.
Repetition.	Repeating one's own movements.		
Play.	Spontaneous activity.	Exhilaration.	Hysterical ecstasy.
Inquisitiveness.	Prying, exploring, taking apart.	Curiosity.	Wonder.
Constructiveness.	Putting together.	Pleasure of construction.	Perplexity, elation.
Migration.	Seeking new surroundings.	Novelty, "Wanderlust."	
Acquisitiveness.	Collecting, hoarding.	Desire.	Greed, avarice.
<i>Individualistic:</i>			
(a) <i>Self-protective:</i>			
Combative.	Fighting.	Resentment.	Anger, wrath, frenzy.
Retractive:			
(1) Shrinking.	Hiding.	Timidity.	Terror.
(2) Flight.	Flight.	Fear.	D spair.
Repulsive:	Thrusting away.	Dislike, dread.	Disgust.
(b) <i>Self-assertive:</i>			
Self-assertion.	Strutting, preening, domineering.	Arrogance, superiority, pride, vanity.	Shame, humiliation.
(c) <i>Anti-social:</i>			
Teasing and Bullying.	Torture, insult.	Contempt.	
Predatory.	Stealing, destroying.	Vindictiveness.	Hate.
Shyness.	Withdrawal, seeking solitude.	Self-distrust.	Fright.
<i>Sex and Parental:</i>			
Sex.	Mating.	Conjugal love.	Passion, sex jealousy.
Protection of young.	Guarding, shielding.	Parental love.	Self-renunciation, grief.
<i>Social:</i>			
Rivalry.	Competitive acts.	Emulation.	Jealousy, envy.
Gregarious.	Congregating in groups.	Sociability, kinship.	Homesickness, yearning for companionship.
Co-operative.	Working together.	Loyalty.	Remorse.
Altruistic.	Helping others.	Friendliness, solicitude.	Sympathy, pity, grief.
<i>Religious:</i>			
Self-abasement.	Subjugation.	Reverence, humility, veneration.	Awe.
<i>Æsthetic:</i>			
Rhythmic.	Dancing, song, chant.	Harmony.	Ecstasy.
	Contemplation.	Admiration.	Rapture.

Education and Instinct.—What have these instincts to do with the problems of education? This is a question of most vital importance because all education must begin with some one or more of them.

Men have not been fully aware of this very important truth at all times during the past centuries. Indeed, it may be said that even now we are not well prepared to take advantage of all these instinctive capacities. We are not prepared because we have no adequate and complete classification of all of the human instincts, and even if we had the classification made, we do not know how to adapt many of the instinctive actions in such a way as to turn them to account in the formal instruction of schools. In our eagerness to set man off as different from the rest of the animal kingdom we have neglected to value his instinctive capacities. Unfortunately for the children, we have expected them to have adult capacities when they come to school, and we undertake to make them perform tasks for which they have no aptitude or capacity and in which they have no vital interest. In such attempts, a careful analysis usually shows that some one or more fundamental instincts which might have been used have been entirely overlooked or ignored.

To answer the question with some definiteness we can say that education should strive to check or inhibit certain instincts, such, for instance, as fighting and teasing; some other instincts, such as cooperation, sympathy, and acquisitiveness, should be stimulated; and, most important of all, education must give direction and guidance to almost all of the instincts. Especially is this true concerning imitation, play, constructiveness, acquisitiveness, curiosity, and altruism. These native capacities should be seized by the teacher and given such guidance and direction as will insure the largest possible growth and development during the school period.

Thinking or Ideation.—We have already spoken of human actions on the two lower levels or planes, namely, reflexes and instincts, but human action at its highest level is the result of thinking, or, as it has been termed by psychologists, ideation. Thinking is different from the two other activities in that it involves definite consciousness, or awareness, and purpose; in fact we say that it is this capacity which sets man off distinctly from the lower animals. Man's ability to act purposefully and thoughtfully is his highest and most valuable characteristic. But before man's action can be raised to the thought level, he must have certain important experiences, for we know that small children are prompted to act primarily by responses and instincts. These necessary experiences are acquired through sense perception.

Sense Perception.—We cannot vitally interest small children in very abstract material of any kind, because certain fundamental, first-hand experiences are necessary before the mind is ready to act in general terms. Therefore the elementary school should make sure that a large fund of simple "sense material" is provided for its pupils. The old-fashioned multiplication table, the isolated facts of geography and history, and even the word list which was memorized under various schemes, all violate this fundamental principle. The child must have a large fund of sense material before he can be interested in remote abstractions. We are recognizing the importance of this fact more than formerly, and a large number of devices are being used to bring the subject matter down to the level of the child's experience; however, there remains in the ordinary elementary-school subjects much material which is entirely too far removed from the child's experience

to be learned with any considerable degree of interest and thoroughness.

It may be stated as a good working principle that each one of the subjects in the elementary school should be presented in such a way as to make the greatest number of sense experiences possible. For example, in word mastery the child will learn more readily after he has had the opportunity to see the word which he is trying to master, to hear it spoken, to see or to perform some appropriate action growing out of the use of it, and then to attempt to write it. It has been shown conclusively that in learning to spell efficiently the gain is almost in direct proportion to the number of sense appeals which have been made in the instruction. For example, those students who hear the word, see it, spell it, and pronounce it, and finally write it, make the best scores in spelling. We are just beginning to learn the value of such subjects as drawing, manual training, and household arts for giving to children those essential experiences necessary for the thought processes which come during the early stages of education. A more adequate discussion of this important principle will be made in connection with the chapter on "The New Curriculum."

Apperception.—The author understands that the word *apperception* has very little positive standing in present-day psychology or pedagogy, and yet it is used so generally that it seems desirable to employ it in this discussion. For our purposes we may say that it is used to indicate those types of mental activity which go on in connection with acquiring experiences and discovering meaning in connection with them. It may be noted also that one's present *set* or *frame* of mind has much to do with the sort

of meaning which will be taken out of any new experience.

In the preceding section we urged the very great importance of sense impressions, but it was pointed out also that sense impressions do not constitute the final stage of knowledge, and so long as they remain in isolation they are not so very valuable. The accumulation of sense impressions is valuable in so far as it may be used to interpret new experiences and to provide for generalizations. By generalization we mean here some principle which has been discovered or developed out of a number of the child's experiences. Of course it is evident that the value of generalization consists in the fact that it may be used as a short-cut to the interpretation of many other experiences involving some of the common elements which were originally used to make up the generalization. It may be worth while to offer some concrete material to show how this important mental activity goes on.

A small boy who had stepped on the hot-air register in the floor of a store said to his father, "This must be a stove and I should not stand on it." He had been used to stoves in his home and did not know anything about furnaces placed in the basement, and because the heat was coming out of the register or off it he gave this simple interpretation directly out of his limited experience in such matters.

Another small boy who had been used to ducks and had never seen any geese suddenly came upon a flock of tame geese. He exclaimed, "What a lot of big ducks!" His knowledge of ducks was utilized to characterize this new experience.

Not long ago the author was crossing the Rocky Mountains in company with some small children

who had never seen any mountains. One youngster exclaimed, in great ecstasy, "Such high hills! Wouldn't it be fun to climb them?" This youngster was merely doing his best to describe his new experience.

On another occasion some children who had lived in the country all their lives were brought suddenly to the shore of Lake Michigan and one said, "My, this is a mighty big pond." His only experience with bodies of water of any size had been in terms of *ponds* and that was the best way he knew to describe this new experience.

One of the best examples, much more complex than these, is the classic story of Alexander told in Rousseau's *Emile*.¹ Alexander had been told that his physician, Philip, was false and was planning to poison him, but when the physician offered him some medicine Alexander took it without the slightest hesitation. This story has been retold by McMurry and others to illustrate the principle of apperception.

"I once spent a few days in the country at the house of a lady who took great interest in the education of her children. One morning as I was present at the lesson of the eldest, his tutor, who had very thoroughly instructed him in ancient history, calling up the story of Alexander, dwelt on the well-known incident of his physician Philip, which has often been represented on canvas, and is surely well worth the trouble. The tutor, a man of worth, made several reflections on the intrepidity of Alexander which did not please me, but which I refrained from combating in order not to discredit him in the estimation of his pupil. At table, according to the French custom, there was no lack of effort to make the little fellow chatter with great freedom.

¹ Rousseau: *Emile*, translated by Payne, pp. 77 and 78.

After dinner, suspecting from several indications that my young savant had comprehended nothing whatever of the history that had been so finely recited to him, I took him by the hand and we made a tour of the park together. Having questioned him with perfect freedom, I found that he admired the boasted courage of Alexander more than any other one of the company; but can you imagine in what particular he saw his courage? It was merely in the fact of having swallowed at a single draught a disagreeable potion without hesitation, without the least sign of disgust. The poor child, who had been made to take medicine not a fortnight before, and who had swallowed it only after infinite effort, still had the taste of it in his mouth. In his mind, death and poisoning passed for disagreeable sensations, and he could conceive no other poison than senna. However, it must be acknowledged that the firmness of the hero had made a strong impression on his young heart, and that he had resolved to be an Alexander the very first time he should find it necessary to swallow medicine. Without entering into explanations which were evidently beyond his capacity, I confirmed him in these laudable intentions, and I returned, laughing in my sleeve at the exalted wisdom of parents and teachers who think that they can teach history to children."

From reading the story it is evident that at least four different interpretations were put upon it. First, on the face of it, the tutor and the child interpreted it to mean that Alexander was a very brave and fearless man; second, it is possible to interpret it in such a way as to feel that Alexander was foolish and lacked discretion; third, Rousseau gave it the interpretation that Alexander knew his physician and trusted him implicitly; and finally, a careful examination of the child's real interpretation made out the fact that he considered Alexander brave simply because he had taken some bad medi-

cine, the interpretation being given in the light of his recent experience of having to take some disagreeable medicine.

Applications.—Certain important applications of principle suggest themselves. (1) The first is the great importance of previous knowledge in interpreting every new experience. Before new lessons are assigned or new problems attempted, it is imperative that the teacher should as far as possible take stock of, or determine, the range of experiences in the class, to see if they are sufficient for the comprehension of the new situation. Much waste goes on because of the lack of the application of this principle. (2) Learning is made easier when the new material is presented in very close connection with the old experience. (3) We may expect the different members of the class to get different interpretations from the same assignment, no matter how careful and definite that assignment may be. (4) In connection with the new experience or situation some remaking or reconstructing of the old experiences necessarily takes place. This reconstruction should be of such a nature as to cause the old material to have an increased value. Indeed, the whole process should go on in such a way that the modification of the old experience, in connection with the new ones, shall add to the power and efficiency of the individual. (5) One of the chief functions of the teacher is to show children how to work and study in such a way as to provide for the greatest possible growth in connection with all of their experiences, in school and out of school.

The Law of Imitation.—Both as teachers and as parents we need to recognize the very great importance which the law of imitation plays in the life

of the child. We say the "mother tongue." By that we mean that the child has learned the language, whether it be English, French, or German, from its mother. The language has been learned by imitation. Sometimes imitation is almost at the very lowest level of activity, because sometimes children act in reflexes or, on the basis of the old saw, "Monkey sees, monkey does."

We have all heard very small children repeat words from the conversation of the home without any considerable appreciation of the meaning of them; and it is very common to see small children, in play, dramatize the more serious activities of the household, farm, or community. Likewise, we know how real characters, or even ideal characters in books, are taken as ideals towards which we strive to attain. We should remember that the child comes to school with a very large fund of experiences, including a very wide range of activity.

Value of Imitation.—It should be remembered that the imitative attitude is instinctive and that its value is primarily to be found in the fact that the race in this way insures the economical transfer of such material as is fundamentally necessary for the rapid progress of the new member of the group. The school should make use of this valuable method, but it should be used with great discretion, because we do not want to make children mere imitators. We want to leave room for individual initiative and freedom for personal development. It is a good thing that children may imitate their parents, other children, and the teacher, but to secure large development they must be allowed to have a large range of social experiences. In the formation of their ideals they should have some knowledge of the great char-

acters in literature and history and, if possible, should come in contact with some people of lofty ideals and purposes.

It is well to remember that there is a phase of imitation which expresses itself on the basis of contrary suggestion. It is difficult to lay down any general rule about it, but both the teacher and the parent should know that their children act in this way at times. Sometimes a teacher or parent will give such directions or set up such limitations or prohibitions as to cause the child to do the very thing it had not thought about before. [For illustration, I once knew a mother to go away from home, telling the children not to go near an old well which was out in the orchard, as they might fall in and get hurt. When she returned she was horrified to find one of the small children down in the well. Fortunately, as there was only a little water in it, the child was not much injured. When she asked the children about disobeying her they said they had really gone to look at the well to see if they would fall in. Both in the home and in the school many parallel instances can be found.

Dangers in Imitation.—As was indicated in a previous sentence, the chief danger in the use of imitation as a method for instruction is to be found in the fact that we may make mere parrots out of children. The particular form of word or action may be used as the final thing in the instruction. We should keep in mind that mere form or convention is not the end, but rather the education of a human being. If this is done the method may be employed with much value and effectiveness with reference to many of the simpler educational processes.

PROBLEMS FOR STUDY.

1. Make a list of the important instincts. How are each of these of value in education?
2. How does the child learn to walk?
3. Is correct language a result of imitation or of a knowledge of the rules of grammar?
4. Name some habits or ideals which you have as a direct result from imitating some one you admire.
5. A teacher told some boys not to climb a tree to disturb a bird's nest. They did so. Why?
6. Why is most arithmetic instruction difficult for small children?
7. Without looking at a foot ruler or yard stick go to the board and mark off a foot and a yard. Get a ruler and measure the lines. How accurate were you? What caused you to be inaccurate?
8. State clearly the law of apperception.
9. Recall three examples of apperception in your own experience.
10. A small boy at a circus stood before some kangaroos and said that they were large rabbits. What made him say it?

READINGS.

Bagley: *The Educative Process*, Part III.

Colvin: *The Learning Process*, Chap. XIV., XV., and XVI.

Charters: *Methods of Teaching*, Chap I. and IV.

Klapper: *Principles of Educational Practice*, Chap. XIII. and XIV.

Pyle: *Outlines of Educational Psychology*, Chap. IV.-IX.

Strayer: *A Brief Course in the Teaching Process*, Chap. II. and VII.

Thorndike: *Educational Psychology*, Part I. and II.

Thorndike: *Principles of Teaching*, Chap. III. and XII.

CHAPTER XI.

PSYCHOLOGICAL FACTORS INVOLVED IN THE PROCESSES OF INSTRUCTION

(Continued).

Individual Differences.—The teacher and the school must recognize much more definitely than has been the case that there are very great differences among children, even those of the same age and experiences. There are very great differences among people even when they have been through the same general experiences for a number of years. These differences manifest themselves in many interesting and varied ways. Some of the more important may be observed here.

Some children have great initiative and courage, while others are timid and filled with fear without any apparent reason; some children are alert, while others are habitually slow; some children are interested in working with their hands, others delight in books; some children gain information readily through the sense of sight, others want to touch or to hear before they are satisfied; some children seem to acquire a sense of responsibility quite readily, while others seem almost never able to assume responsibility for themselves or others.

These differences are important, because they have to do with the amount and character of work which will be accomplished in a given grade by a group of children. When the graded scheme supplanted the individual scheme of instruction we thought we

had achieved a marked advance, but, when we take into account these important facts, we must see at once that the graded plan has its drawbacks. In the graded plan we make our assignments and requirements on the assumption that children are equally capable to do any task we give them. We assign so many words to be spelled, so many pages to be read, or so many problems to be solved by all the members of the class, making no material allowance for the wide variations in ability which exist. Moreover, we keep the old style of classroom instruction which insists that all students shall do the same work and the same amount of work. This is both a psychological impossibility and absurdity. It might be well to give some very concrete examples to show the importance of these differences in relation to the matter of instruction.

The author remembers very well studying a first grade in which he found children having a vocabulary varying from one hundred words to one thousand words, although all the members of the class were six years of age. At the end of the year two members of the class had been promoted to the third grade and three members of the class had not yet learned to read.

Recently the author went into a class in our rural school course (which is at about the level of the third year of high school) and asked the members of that class to write all the words they could in three minutes, the words to be taken out of the vocabulary they had learned in the course in rural school psychology. The students were directed to write at their ordinary rate and in their usual way of writing. The following interesting results are shown by the tabulation:

<i>Students</i>	<i>Words</i>
1	7
1	8
3	9
5	10
2	11
6	12
5	13
3	14
4	15
2	16
1	17
2	18
1	21
—	
36	

It will be observed that one student wrote only seven words and another twenty-one words,—three times as many as the first. The following seven words were written by the first student mentioned:

Synapse
Dendrite
Axone
Obsolete
Cortex
Neurone
Reflex

The second student wrote the following:

Illusion
Hallucination
Perception
Consciousness
Concept

Imagery
Instructive
Reflex
Activities
Habitual
Innate
Tendencies
Attention
Complex
Passive
Active
Curiosity
Altruistic
Predatory
Gregarious
Co-operative

In addition to the factor of speed, even more important differences might be pointed out if we were to discuss the relative importance of the words selected. That, however, is not necessary for our purpose here.

Another interesting example of a similar type is to be found in the following experiment: Lincoln's First Inaugural Address was assigned to a group of thirty-two Freshmen college students with the following directions,—Read the selection at a normal rate of speed. Note the time of beginning the reading and the time when the selection is finished. Without re-reading or in any way referring to the selection, reproduce the thought of the address, noting the time of beginning and of finishing the reproduction. The results were:

<i>Number of students.</i>	<i>Minutes spent in reading.</i>
1	10
1	13
1	14
4	15
1	18
10	20
2	24
3	25
2	29
5	30
1	32
1	38

<i>Number of students.</i>	<i>Minutes spent in reproduction.</i>
1	8
3	10
2	14
4	15
3	19
6	20
2	22
5	25
3	28
2	30
1	35

The material reproduced was examined and found to show variation in amount reproduced as follows:

<i>Number of students.</i>	<i>Number of thoughts reproduced.</i>
3	15-24
3	25-34
6	35-44
6	45-54
8	55-64
3	65-74
1	75-84
0	85-94
2	95-104

And still another example is the following: Cardinal Newman's "Definition of a Gentleman" was assigned to another group of thirty college freshmen, with similar directions for reading and reproduction. The results were:

<i>Number of students.</i>	<i>Minutes spent in reading.</i>
3	3
4	3½
4	4
7	5
4	6
6	7
4	9

<i>Number of students.</i>	<i>Minutes spent in reproduction.</i>
1	4
3	5
2	6
3	7
4	8
4	9
2	11
2	13
3	18
4	19
4	22

<i>Number of students.</i>	<i>Number of thoughts reproduced.</i>
4	5-9
10	10-14
8	15-19
4	20-24
4	25-29

It will be observed that, whether speed in writing or reproduction or the amount of reproduction be considered with reference to these two simple experiments, there is a very wide range of ability manifested in a group of students who have spent twelve years

in the ordinary tasks of our schools. Any amount of evidence might be offered to show differences in capacity, but it seems that the above should suffice.

Applications.—We must, therefore, cease to expect children, even though they are in the same grade and of about the same age, to do exactly the same amount of work in a given time. It is not only unfair and unjust, but also impossible. There is also an important moral question involved, in that children under the pressure of such an unjust procedure will resort to many types of cheating and dishonesty, which they would never think about if they were treated fairly on the basis of their capacity to do work. In our assignments and requirements we must find room for these marked individual differences. It may be done by maximum and minimum assignments, involving the textbook material and such supplementary material as we may choose to use in connection with the ordinary class work. In any event we must not continue the present scheme. Some other suggestions have been made as to means of providing for individual differences in the chapter on "Instruction."

Formal Discipline.—Very much discussion has been given in the more recent pedagogical and psychological literature to the subject of mental discipline or the acquiring of skill. No detailed consideration of that literature need to be set forth here, as it could not be done with profit. A brief statement concerning some of the more important phases of the case should be presented, however, because many parents and teachers still insist that certain subjects or parts of subjects shall be taken by their children, on the supposition that such studies will give some general capacity.

Not very long ago a very capable business man, who was a member of my board of education, insisted that he thought it would be a good thing to require some work in arithmetic in each year of a four-year high-school course, his argument being that it furnished material with which to discipline the mind. A few days since a father (himself a college graduate) said to me that his boys must take all of the mathematics offered in the normal school, beginning with algebra and including analytics and calculus, because he thought these subjects insured the training of the reasoning powers. So we are told that history material trains the memory, that Latin and English train the logical powers of the mind, and that the natural sciences train the observation.

All of these statements imply that the mind has a single power to reason or a single power to remember or observe, when, as a matter of fact, such is not the case at all. To state it in very simple, unpsychological terms, the mind has many ways of remembering and reasoning and of observing—in fact, almost as many ways as it has different sorts of experiences. This might be illustrated indefinitely from the recent material of experimental pedagogy or psychology, but an account of a few simple tests will suffice for our present purposes.

A simple puzzle was selected and given to an arithmetic class of twenty members. It turned out that the poorest member of the class solved the puzzle first and that the best member of the class gave it up in despair after trying thirty minutes. Now the puzzle had to be reasoned out, but Mr. A, the best student in the class, was not used to that sort of reasoning, whereas Mr. X, who was a poor arithmetic student, had taken great delight in

puzzle-working and had a large collection of puzzles.

Recently, in a Freshman college class in the Principles of Teaching, the author asked the students to memorize Homer's Iliad for ten days, keeping an accurate score of the number of words and number of lines learned each day. On the eleventh day, without any warning, they were handed a book containing selections of nonsense syllables and told to go on with their memorizing, using these nonsense syllables, keeping an accurate score in words and lines. On the sixteenth day they were handed copies of the Iliad, with the request that they begin memorizing the Iliad exactly at the same place they had left off on the tenth day, and they were told to keep the score to include the twentieth day. The detailed tabulation might be interesting, but, for the sake of brevity, we present only a summary of the results.

Every member of the class was seriously disturbed by the transfer from the Iliad to the nonsense syllables and from the nonsense syllables back again to the Iliad. No member of the class in the second trial with the Iliad reached so high a level as he had acquired in the first ten days. Several members of the class started their second trial at the Iliad much lower than on their first day of memorizing it.

While no sweeping generalization should be made on such experiments as this, it seems very evident that the sort of material memorized has much to do with the processes involved in the act, and possibly we should say that we have very different capacities for remembering different sorts of material. One psychologist has said, "We have many memories."

It is very doubtful if learning one sort of material helps us to any great extent in learning other ma-

terial of a very different nature. For example, solving problems in arithmetic would probably have little to do with learning the facts of agriculture, and the work done in manual training would probably have little to do with helping a student to memorize conjugations in English grammar. The material is too unlike for a set of habits made in one of these subjects to be used in the other.

In other words, learning the material of one subject helps in another subject only in so far as the substance is essentially similar. For example, many of the facts of English history would be of value also in the study of English literature; or a knowledge of the fundamental processes of arithmetic would be useful in algebra, as well as in geometry; or the facts of biology might be used in agriculture. It should be observed, however, that even in such examples it is probably not possible to "transfer" the facts or the skill at its full value, for something is usually lost in the changed situation.

It has been pointed out also that certain ways of doing things in one subject may be used in connection with other subjects. For example, if the student has been taught the use of a compound microscope he can use this instrument in connection with any subject or material he desires. The student who has been taught to use the saw and plane would be able to manipulate them in connection with any kind of wood, whether it be pine, oak, walnut, or mahogany.

Applications.—In the matter of Formal Discipline, then, we may say: We should study many different subjects in order that we may set up many different habits. We should not urge that subjects should be kept in the course of study or put in the course of

study primarily on the grounds of any general disciplinary value. We should recognize the fact that different subjects may have different values for different students. The school should offer such material to its pupils as will enable them to make the largest number of habits to be used in connection with the life of the community.

The Law of Interest.—Somewhat in contrast to the doctrine of discipline, we have the doctrine of interest, which was first formulated by Herbart and his followers.

What is interest? Perhaps no other principle in pedagogy has received more criticism, adverse and favorable, than that of interest. Genuine interest is based on a feeling of value and, at the lowest level, grows out of some one or more of our instinctive reactions, while at the highest level it is the result of thinking and ideation.

Interests are of two general kinds—namely, immediate and remote. In the case of an immediate interest the value may be realized at once. For example, the solution of a difficult problem in arithmetic brings immediate satisfaction. In the case of remote interest the high-school student works away on his Latin, not liking it at all, but knowing that it will be necessary for him to have it to enter medical college, where many of the terms employed are derived from the Latin. His satisfaction or pleasure is remote. To be more specific, we may say that interest is based on a feeling of value which comes out in the gratification of some need, secures some pleasure or brings some satisfaction. These may be immediate or remote.

How to Secure It.—In order to secure interest we must make use of the native instincts and ca-

pacities of children; we must provide suitable tasks in which these capacities may be used; we must know how child life functions and must present suitable material at every stage of its development; and, finally, we must know much about the previous experiences of the children, in order that a good selection shall be made.

Dangers in the Application of the Law.—The chief danger in the application of the law of interest lies in the fact that we may try to make things too easy by setting artificial problems. Not every task can be made immediately interesting. We should not undertake to do so. It is a great mistake to talk about interest. Instead, the problem should be set in such a way as to appeal to the child.

Applications.—We do not have to choose subject matter for our curricula because it is easy, for it may be difficult and interesting at the same time. A football game is played with great interest and intensity, but I am sure its most bitter enemy would not contend that it presents an easy situation; indeed it is very hard work. It is interesting, however, because its problems appeal to certain fundamental instincts—namely, the fighting instinct, the gaming instinct, and the desire for co-operation. Subject matter should be selected by the individual and society on the basis of its power to satisfy some one or more of our immediate or future needs. As we have indicated in another place, all subject matter has been evolved in order to help us solve some problem. Therefore, if we want to make sure of interest in any unit of subject matter now, it must be treated in such a way as to help us to solve some modern problem. Eventually this must mean the reorganization of many school subjects in such a way as to eliminate

much material which has only a traditional or historical value.

Motor Activity.—Children play or do things before and after the school period. At school they sit still, or try to do so, and learn lessons. We should use play, games, gymnastics, drawing, music, manual training, household arts, etc., in which there is a great deal of motor activity. It may be observed that children usually find much more pleasure and enjoyment in subjects in which there is something to be done. It would seem that all of the studies and tasks in the school should give more consideration to this important side of child development. A baseball game makes provision for much experience, because members of the team will practice for hours in order to perfect some particular play. We are beginning to use dramatization, with material selected from literature and history, to provide somewhat for this type of activity. Not long ago I saw a fine United States history recitation in the seventh grade, in which the Constitutional Convention was dramatized. The students represented the important characters of that assembly and even went so far as to characterize, in manners, dress and attitudes, the statesmen who composed that great council. The whole play was staged so as to make a large appeal to the motor activities of the participants. Much could be done to revitalize many of the difficult situations in the elementary-school course if more attention were paid to the fact that children like active situations and are willing to work most earnestly in them, but do not care for the more abstract problems presented by the school.

PROBLEMS FOR STUDY.

1. Does your study of arithmetic help you in the study of grammar? Explain.
2. Will trying to get to school on time help one to get to Sunday-school or church on time?
3. Will writing a language paper neatly cause one to kill all the weeds in a corn-row or to wash the dishes more carefully?
4. Does learning the multiplication table aid one in telling the truth?
5. Will reading George Washington's Farewell Address make one a better citizen? Why?
6. When is one really interested in a subject?
7. Does a task need to be easy in order to be interesting? Give illustrations.
8. What makes the kindergarten work interesting?
9. Why are definitions in grammar or rules in arithmetic uninteresting?
10. How can the school aid us in forming desirable permanent interests?
11. What do instincts have to do with interest?
12. Is it fair to ask all the children to solve ten problems in arithmetic as preparation for one lesson? Justify your answer.
13. Suggest one way of reorganizing the school to provide for individual differences.
14. Could you make maximum and minimum lesson assignments? Give the values.
15. Study the vocabulary of children who come to school for the first time to enter the first grade.
16. What do you mean when you say that a child is *quick* or *slow*?

17. What is an average child?
18. When is a child a motor type?

READINGS.

Bagley: *The Educative Process*, Part II.

Colvin: *The Learning Process*, Chap. XIV., XV., and XVI.

Charters: *Methods of Teaching*, Chap. VIII.–XII.

Klapper: *Principles of Educational Practice*, Chap. XIII. and XIV.

Pyle: *Outlines of Educational Psychology*, Chap. II. and III.

Strayer: *A Brief Course in the Teaching Process*, Chap. II. and XVIII.

Thorndike: *Educational Psychology*, Part III.

Thorndike: *Principles of Teaching*, Chap. V., VI., XIII. XV.

CHAPTER XII.

INSTRUCTION.

IT is not the primary purpose of this book to present a lengthy discussion concerning methods. However, since it is to be used as an introduction to the general problems in education, it is necessary that it give some attention to the more important phases of Method as they relate to Instruction.

The Function of the Recitation.—It is the business of the school to furnish to the student the maximum amount of subject matter necessary for the formation of life ideals, and it is also important that the school exercises should furnish the largest amount of experiences which can be made into valuable habits. The recitation is the most essential exercise for the accomplishment of both of these purposes. The recitation has been discussed in some respects in another chapter, but a more detailed discussion of it is made in this connection in order that certain essential factors concerning methods may be presented.

Methods of Presentation.—The recitation may be conducted by means of textbooks, lectures, or development.

1. A good *textbook* should be a guide to the teacher and the student, but it should not be followed slavishly, because it is usually too general and abstract to meet local situations. It is satisfactory for a statement of certain large principles, but a teacher must always supplement it with much concrete material. This material may be taken from observa-

tions of the children, from the memory of the teacher or children, and from other books.

2. The *lecture method* may be used with primary children in the form of story-telling, and may assume a more formal character in the upper grades and high school. This is the most characteristic method of both elementary and secondary schools in Germany. It has the advantage of requiring the most thorough preparation on the part of the teacher, and by it a large quantity of subject matter may be presented to a great number of children in the shortest space of time. It has the disadvantages of requiring the minimum amount of work from the student, it may ignore the previous experiences of the children, there is no positive way to learn at once whether the matter is being comprehended or not, and it is difficult to use it with full recognition of differences in capacity.

3. The *development lesson*, when well conducted, has the advantages of placing large emphasis on the child as a worker and thinker and it readily lends itself to nearly every subject of the elementary school; for many subjects it is undoubtedly the best method. It has, however, the disadvantage of allowing the children and the teacher to waste time with needless questions and discussion. Unless careful planning is done, it usually provides a poor organization of the material taught, and not all subjects can be developed satisfactorily.

A teacher should be trained in such a way as to be able to use all of these methods of presentation and to be able to make such combinations of them as will secure the best results. It is of great value to have that peculiar capacity to find real problems for children; not problems in abstract form, but such

as grow out of the school, the life of the child, and the community. Children need to be *challenged* into doing the school work because it suggests things worth doing; and any form of instruction which does this in a given subject should be selected by the teacher.

LESSON FORMS.

The Inductive Lesson.—Modern pedagogy contains much discussion on the values of the inductive lesson. The Herbartian movement in education, which had much to do with systematizing instruction, initiated the lesson forms. In Herbart's study of the principal problems of education he found, as many other reformers have done, that one of the chief defects in education is the lack of any definite system. In order to avoid the resulting great waste, he devised a systematic arrangement for the more important features of class instruction. These plans were so thoroughly worked out that they very largely influenced the classroom instruction in the German schools in the middle period of the nineteenth century, and there are still important traces of their influence to be found in all European schools.

Between 1880 and 1895 a number of American students went abroad to study in German Universities, and there came under the influence of the Herbartian pedagogy. Among these were the McMurrays, De Garmo, Van Liew, and others. When they returned to America they became advocates of many of the important phases of the Herbartian methods and several wrote textbooks, gave lectures on instruction before teachers' conventions, and wrote essays in the school journals, setting out the chief elements of this new pedagogy. Perhaps one of the

most important results of this activity was the impetus given to the form of instruction now known as the *inductive lesson*.

The important divisions of an inductive lesson are now given under the headings: *Preparation, Presentation, Comparison, Abstraction, Generalization, and Application*. These were not the terms employed by Herbart, but have been chosen by his followers to represent, in a general way, the ideas set forth by him. A brief explanation of these terms is offered to demonstrate their significance in plan-making and instruction.

In a *preparation* for the new lesson, the usual method is to review or recall any previous experiences of the members of the class which may be utilized to enable them to prepare for a rapid appreciation of the new material which is to be learned in the lesson. The value of this exercise is self-evident when we recall what has been said concerning the doctrine of apperception. The function of preparation is primarily to enable the student to get a good setting for the new work, and we should not attempt to teach new facts during this step, although it is not always possible to keep out all new material, as the children may bring in some if the discussion is carried on informally.

In *presentation* the teacher and the pupils will make use of some one or more of the various methods discussed in a previous section to set forth the new facts or principles which are to be learned in the day's lesson, the amount of material told by the teacher or pupils depending on the sort of work selected and the form of method employed by the teacher.

Comparison is used to enable the student to try to ascertain some common element or feature which

is to be set off, ultimately, as the main discovery of the whole process. In this step, previous knowledge of the form of facts or principles must be brought into view to help set off the new element.

In *abstraction* the mind is simply setting off, from the mass of other material which has been under review, the common factor or element which we are seeking.

When the common element has been separated from all the other associated facts or principles, we say we are ready to make the *generalization*, which is nothing more than the formal statement of our findings.

The last step is usually known as *application*. In this we take the fact or principle which we have worked out and undertake to apply it to a great many other situations involving similar factors.

The chief value of the inductive lesson is that it provides the children with suitable experiences, so that the final statement or generalization is something very real to the student and not a mere group of words which may have only slight meaning. The new textbooks, which are now being prepared for the elementary school, have been written largely from the inductive point of view.

The impression should not be obtained from the foregoing statement of an inductive lesson that all of these steps or features will stand out in every inductive lesson in definite order; indeed, many times two or more of them may be almost completely fused. Moreover, in many instances, certain deductive elements will come into a lesson which is predominantly inductive.

In order to make the above discussion somewhat more concrete, we submit some plans.

Plan No. 1¹ (a lesson in arithmetic for the sixth grade) has been used in our observation classes in the training-school a number of times. It is not submitted with the thought that it is perfect, but it is a typical illustration of a lesson which is inductive in character.

PLAN No. 1.

ARITHMETIC.

Subject Matter.

Review linear measure, square measure and area.

Teach Board Measure.

SIXTH GRADE.

Method of Procedure.

Aims:

Ultimate—To teach arithmetic for its utilitarian values, to teach habits of logical thinking, accuracy, and rapidity in thinking.

Immediate—To teach Board Measure, so far as practical for children of this grade.

Preparation:

Review linear measure; ask for uses. Review square measure, also uses. Ask for area of several surfaces.

What part of a foot is 6 in., 8 in., 2 in., 10 in., 4 in.?

Development:

Ask for uses of lumber. How many have ever bought lumber? (Boys have doubtless had some experience.) Speak of lumber-yards in town, saw-mills, if any, etc.

Speak of units of measure in buying wood, coal, sand, etc., and ask how lumber is measured when sold. Some may know that the board foot is the unit of measure in buying lumber.

Show piece of lumber representing a board foot. Question as to dimensions. After all see that the board foot is 1 ft. long, 1 ft. wide, or 1 ft. square on one surface, and 1 in. or less in thick-

¹ Plans Nos. 1, 2, and 4 are used by courtesy of Supt. George R. Crissman, of the Training School in the State Normal School at Warrensburg, Mo.

ARITHMETIC.—(Continued).

$$8' \times 1' \times 1''$$

$$9' \times 1' \times 1''$$

$$8' \times 1' \times 2''$$

$$9' \times 1' \times 2''$$

$$8' \times 1' \times 3''$$

$$9' \times 1' \times 3''$$

$$8' \times 1' \times 4''$$

$$9' \times 1' \times 4''$$

SIXTH GRADE.—(Continued).

ness. Ask some pupil to describe a board foot.

Impress upon class that all lumber less than one inch in thickness is regarded as one inch thick in computing board feet in lumber.

Show piece of lumber 1 ft. wide, 2 ft. long, and 1 in. thick, and ask for number of feet B. M.

Show similar piece 3 ft. long, and ask for number of feet B. M.

Ask for abbreviation of "Board Measure," and write it on the board (B. M.).

Give similar problems, keeping width and thickness $1' \times 1''$, but different lengths, and require class to give number of feet B. M. Take same problems with thickness of $2''$ instead of $1''$. Lead pupils to see that a piece of timber $2''$ thick contains twice as many board feet as a piece $1''$ thick. Drill on same problems with thickness of $3''$ and $4''$ instead of $1''$.

After much drill on this part, ask how area of a surface is found. From previous work pupils will say that length is multiplied by width. Pupils already know that dimensions must be of same denomination before multiplying, as,

$12' \times 4' \times 6''$ must be changed to $12'$ by $4\frac{1}{2}'$ before multiplying, — then $4\frac{1}{2}'$ by 12 sq. ft. equals 54 sq. ft.

Since one surface of a board foot is one foot square, we find the area of one surface in square feet as timber $8'$ long and $18''$ wide has one surface having an area of $1\frac{1}{2} \times 8$ sq. ft., or 12 sq. ft., and since we are dealing with lumber and it must have thickness, we may call the 12 sq. ft. 12 ft. B. M. if the lumber is $1''$ or

ARITHMETIC.—(Continued).

Lumber 1 in. or less in thickness.

$$12' \times 2'$$

$$14' \times 1\frac{1}{2}'$$

$$9' \times 6''$$

$$12 \times 2' \text{ B. M. equals } 24' \text{ B. M.}$$

$$14 \times 1\frac{1}{2}' \text{ B. M. " } 21' \text{ B. M.}$$

$$9 \times 1\frac{1}{2}' \text{ B. M. " } 4\frac{1}{2}' \text{ B. M.}$$

$$3 \times 24' \text{ B. M. " } 72' \text{ B. M.}$$

$$3 \times 21' \text{ B. M. " } 63' \text{ B. M.}$$

$$3 \times 4\frac{1}{2}' \text{ B. M. " } 13\frac{1}{2}' \text{ B. M.}$$

Find number of feet B. M. in boards 1 in. or less in thickness.

$$1. 8' \times 3''$$

$$2. 16' \times 6''$$

$$3. 4' \times 3''$$

$$4. 16' \times 3''$$

$$5. 15' \times 4''$$

$$6. 24' \times 4''$$

$$7. 14' \times 6''$$

$$8. 16' \times 12''$$

$$9. 18' \times 18''$$

$$10. 28' \times 24''$$

SIXTH GRADE.—(Continued).

less in thickness. If the lumber were 2" thick the number of board feet is 2×12 , or 24.

The class is now ready to see that in finding board feet in lumber the area of one surface is found in terms of square feet, which may be called B. M., and this result is multiplied by the thickness in inches.

Have several problems on board for pupils to solve, as:

Change thickness to 3" and solve.

Let pupils solve following problems orally.

Change thickness and lead pupils to see how work is to be placed on paper. Use thickness of 2 in. Do same with thickness of 3 in., etc.

PLAN No. 1. (*Concluded*).

ARITHMETIC.	SIXTH GRADE.
<i>Subject Matter.</i>	<i>Method of Procedure.</i>
2 x 8 x $\frac{1}{4}'$ B. M. equals 4' B. M.	
2 x 16 x $\frac{1}{2}'$ B. M. " 16' B. M.	
2 x 4 x $\frac{1}{4}'$ B. M. " 2' B. M.	

Summary.

Have some child give rule for finding number of feet, board measure in lumber, viz., The area of one surface is found in terms of square feet, which number is called Board Measure, since we are dealing in lumber, and this result is multiplied by the thickness in inches.

Deductive Lesson.—A good deductive lesson provides some problem for solution, the problem or principle being clearly stated at the beginning of the lesson. Any lesson which begins with definitions or the statement of rules before the work is taken up may be said to be very largely deductive. The old-fashioned grammar and arithmetic lesson will afford good examples. Even at the present time many of the textbooks in these subjects are prepared in this way and much of the instruction so given.

We will briefly state the most important features of the deductive lesson: The first thing to be done is to make a very careful statement of the *definition*, *principle*, or *question* which is the subject of study. The second thing to do is to collect sufficient data on which to base inferences for the study in connection with the principle. These data may be taken from the memory of the children, their observations, the knowledge of the teacher, textbooks, reference-books, maps, charts, etc. After an adequate amount of data has been collected, and even during the collection, the lesson should be managed in such a way as to cause the pupils to try to relate such data

to the principle under discussion. During this process many *inferences* or *suppositions* are made to try to discover the relation of the data to the general principle which we are seeking to prove. Such suppositions are ordinarily called *hypotheses*. After all the data selected have been used to teach the principle and there is a good degree of appreciation of the principle, the step of *verification* may be used, in which the new fact acquired is tried out in many other similar situations, to test its mastery and to enlarge the student's fund of knowledge.

The greatest value of the deductive lesson is that it offers a short-cut to general facts or ideas. It presupposes enough experience on the part of the learner to enable him to comprehend some new subject matter, without having to go through in detail all of the ordinary experiences necessary to get it. It has the very definite limitation that insufficient experience on the part of the learner may make it almost useless as a method of instruction; for the reason that a pupil will be getting only words. From this observation it is quite clear that the deductive lesson must be used in the elementary school with great caution and discrimination.

Many teachers will remember how they memorized definitions of land and water forms in geography, or how they were drilled on rules and definitions in percentage in arithmetic, and how grammar was taken up largely with learning definitions for the parts of speech and rules for the construction of sentences. On the whole, these were very uninteresting tasks; moreover, the performance of them did not insure any mastery of the subjects. The whole difficulty with such instruction was that the children did not have sufficient experience with these forms of

knowledge so that they could get them well by means of the deductive plan.

The following lesson plan for an eighth-grade United States History class has been taught a number of times in the observation classes in our training-schools, Superintendent Crissman doing the teaching:

PLAN No. 2.

Lesson Plan in Eighth Grade History.

Mace's History of United States, pp. 294-299.

First lesson on "*The Growth of Sectional Feeling.*"

Aims: 1. Subjective. (a) To give class unprejudiced judgment about men and measures. (b) To deepen patriotism. (c) To give power to interpret history sanely. (d) To secure clear thinking and organization of thought. (e) To interest the pupils in the big historic problem—How the states grew to hate each other and to fight.

2. Objective. To have the class gain information on the slavery dispute; show how it became a menace to the nation; show how the tariff question was related to the slavery question; show how the tariff question developed two theories of government; show how the South tried to carry out its theory and failed.

Subject Matter.

Middle paragraph, Sec. 289, in text.

Interpretation of history by organization of text.

1. Period of *Discovery and Exploration*, 1492-1607.
2. Period of *Colonization*, 1607-1760 (75).
3. Period of *Revolution*, 1760 (75)-1789.
4. Period of *National Growth*, 1789-1860.
5. Period of *Sectional Dispute and War*, 1830-1865.
- I. *Growth of Sectional Feeling*.
 1. The root of the trouble—Slavery.

Method.

Relate the lesson to Washington's birthday by remarking that our lesson today is largely a lesson on patriotism and calling attention to this being the natal day of him "who was first in war," etc. Let us read a sentiment from him.

Class open books and see that we are just beginning the "period of Sectional Dispute and War." Then looking at table of contents and reading and *fixing* the four previous periods with dates, have class close books and give these. Or write on board.

Show how the whole of the next 100 pp. will be devoted to this last topic—"Sectional Dispute and War."

The first part is "Growth of Sectional Feeling."

Develop outline about as follows:

Subject Matter.—(Continued).

(a) How two systems of labor divided them. Profitable for one. Unprofitable for other.

(b) How the tariff divided them.

Profitable for one.

Unprofitable for other.

(c) How the tariff developed two theories of government. The Calhoun tariff theory. The Webster theory.

(d) How Calhoun tried to carry out his theory.

(e) How Jackson broke down Calhoun's theory.

II. Slavery before 1830.

(1) Slavery compromises in Constitutional Convention.

1. Counting slaves for representation and direct taxes.

2. Importation of slaves.

(2) Ordinance 1787.

(3) Mo. Comp.

1. Maine, free.

2. Mo. slave.

3. Line of 36:30.

III. The tariff of 1828.

1. Tariff of 1816.

Supporters, Calhoun & Clay.

Opponent, Webster.

2. Methods of Opposition.

IV. Ky. and Va. resolutions.

Nullification.

Authors.

Method.—(Continued).

Our problem today is to understand how certain things contributed to "The Growth of Sectional Feeling," so we will really understand what caused the war. Let us put on the board our main topic. What is first Sec. in lesson about? (Books open.) Give me one word that will explain that. (Ans.—Slavery.) If slavery was the root of the trouble we must see how *two* systems of labor divided them. We must see how the tariff divided them. Class read heading to Sec. 278. We must see how two theories of government developed. See Sec. 279. We must see how the South tried to carry out its theory and how Jackson prevented it.

(Books Closed.)

Now let's see how you can explain these things.

We have said that the root of the trouble was slavery. Was this the first of this trouble? What were these two slavery compromises in the Constitutional Convention?

Then there was the ordinance of 1787. Can anyone tell what that was?

Then there was the Mo. Comp. Tell what it was.

(Books Open.)

This brings us down to 1830, when our advanced lesson begins. The question that came up now that aroused the passions of the two sections was the tariff. Why did the South begin to oppose and the North favor? Do you know how Calhoun and Webster stood on tariff of 1816? Why change?

Since the South was now opposed to the protective tariff, but majority favored it, how could a

Subject Matter.—(Continued).

Correctness of theory?

Calhoun and nullification.

V. The Webster-Hayne debate.

1. The Union a supreme government.—Nullification impossible, equal to rebellion.

2. The Union a compact,—nullification possible.

VI. Jackson's attitude.

The toast.

VII. S. C.—Nullification.

VIII. Summary.

Read over and discuss outline on board of "Growth of Sectional Feeling."

Method.—(Continued).

state or states resist a law they believed harmful or unconstitutional? Sec. 293.

Who developed these ideas and were they right or wrong? Why?

Who now brought forward this doctrine of nullification?

What was the Webster-Hayne debate about? Tell about it.

Teacher give additional facts to enlist class and heighten interest.

Read closing sentence of Webster's speech.

What did President Jackson think of Calhoun's doctrines? Tell about the "toast."

How did S. C. propose to handle the tariff of 1832? What did Jackson do?

Now we will keep in mind that this was the first effort to break up the Union and how it came out. We will remember, too, that the South believed largely

1. In nullification.

2. The Union was a league-compact.

States had rights equal to the Union.

We will see how this comes up again and again, till it is tried in 1861.

Drill Lesson.—In some quarters it is very unfashionable to talk about the *drill lesson*; nevertheless, in the chapter on "Psychological Factors to be Considered in Methods of Instruction," we tried to make it very plain that the drill lesson is important. The chief difficulty with the old drill lesson was that it was given only on the basis of effort. Drill has

always been important and always will be, but its efficiency must be determined by the way in which it is given. There will always be many habits which cannot be established without intelligent drill, and we know how very necessary it is that we acquire right habits; indeed, some teachers have maintained that habit formation is the whole of education.

In the chapter on "Psychological Factors" considerable discussion was given to the topic of "Individual Differences." These individual differences are not the result so much of native capacities as they are differences in useful and necessary habit formations. A good example may be taken from habits of reading. A school is known to the author in which the first grade, in one year, read through only one primer, and that very laboriously. In another school six primers were read, and in another fifteen primers and first readers were read in the same time. The explanation for the wide range of variety indicated by these facts is not to be found in the native capacity of the children, but in the methods of instruction used by the teachers.

Only a few days since I observed an eighth-grade arithmetic class where, in the solving of a problem, only two results out of sixteen were correct, as the result of inaccuracies in simple multiplication or addition. I saw another fourth-grade class in which fourteen out of fifteen of the children made no mistake in multiplication or addition. It is a requirement in the latter school that third-grade children shall master the simple processes of addition and multiplication. In all probability, those eighth-grade children will labor all their lives under the handicap of inaccuracy in the very simplest arithmetical processes, because they were not drilled at the proper

time in habits of accuracy in making number combinations.

In order that the drill lesson may be of the most worth, the following elements should be noted:

In every drill lesson the student should most definitely understand, by the assignment, what the fact, problem, or principle is on which the drill is to be made.

The student should appreciate, as fully as possible, the values to be secured in the solution of the problem.

After the task has been *set* the drill must begin and continue with active attention, or with the mind directed to the full measure of its capacity to the task. Small benefit comes from mere drilling, such as spelling over words a great many times or writing over lessons some number of times. This is only a repetition of words.

The drill must be conducted in such a way that the one doing it shall demand, as nearly as possible, absolute accuracy of himself. Inaccuracies of any kind tend to subvert the whole scheme. The price of thoroughness must be paid by complete focalization of oneself on the effort.

If some one or more of the important instinctive tendencies may be commanded to help in the drill this will add to the efficiency of the effort. Also, whenever possible, some immediate pleasure or satisfaction should accompany the successful effort.

The time element is a considerable factor in any successful drill. For the beginner to practice on the piano for two hours at a time will not bring the desired results. Three or four short periods in which the order above noted is carefully observed will bring much better results. Long periods of time

spent upon the multiplication table, or spelling lessons, or an attempt to master the facts in history, will not yield satisfactory results. Short periods, with intense application, in which no distractions or exceptions are allowed, will secure very much better results. We do not know very much about what goes on in the mind during these rest periods, but we have learned enough to know that they are essential for the complete formation of habits. The necessity for the periods of intermission may be only Nature's way of protecting us against too rapid habit formations. This fact explains the so-called "slumps" of school teams in games where a large degree of co-operation is demanded, and it also explains the class "slumps" where, after drilling strenuously for several days on some important phase of a subject, some day the class comes up apparently knowing nothing. We should take heart in such cases, for, usually, in a day or two the class comes out all right, knowing a great deal. The minds of the students have been taking a rest, in which apparently some assimilation has been going on.

The drill lesson is primarily to put some important habit as far over into the automatic stage as is possible. By this we mean only that we can do the act so easily that we do not have to think about it very much, if at all. The product of six times six should "snap off" when we need it without requiring us to think about it, and we should be able to spell the ordinary words of writing and recognize our reading vocabulary without giving them any considerable attention.

The following is a lesson plan for fourth-grade arithmetic, which has been used in the Missouri

State Normal School at Warrensburg, with considerable success. It is in a large measure a drill lesson.

PLAN No. 3.

Lesson by Miss Edith L. Perkins.

Fourth-Grade Arithmetic.

- I. *Aim:* (1) Drill for accuracy and speed in four fundamental operations. (Multiplication.)
(2) Teach first step in Long Division.

II. *Means of securing first aim:*

II. *Means of securing first aim:* A game played with bean-bag. Teacher throws bag to child, at same time pronouncing problem, *e.g.*, 6×7 , and child announces immediate result. If unable to do so child returns bag to teacher and teacher tosses it to another. If child can answer he tosses bag back to teacher and she gives new problem in same way to another pupil.

Values: 1. Game interest.

1. Game method.
2. Better circulation.
3. Excitement stimulates learning.
4. Failure more disappointing, thus holds children to best endeavor.
5. Law of effect applies forcibly.

III. Preparation for work of second aim:

1. The drill on multiplication (same above).
2. Making children prove results in *short division*, thus: $\begin{array}{r} 3:331 \\ \hline :993 \end{array}$

How do you know that 9 contains 3 three times? Answer: Because 3×3 equals 9. Several problems worked out that way.—2:

and 2:

: 532.

3. ^{1. 552.} Teaching the terms *divisor*, *dividend*, *quotient* (Math. Language.)
Special values of this.

- (a) Gives children a basis for explaining work.
- (b) Produces accuracy of thought.
- (c) Teaches a fundamental concept.

How did teacher accomplish *second* aim, viz., teach first process of Long Division?

1. Explain that we have another way of doing the same thing, as by *short division*. It is *just the same*, only we *put down all we think*.
2. Review definition of terms. Get good generalizations of *divisor*, *dividend*, and *quotient*. (Write *quotient* on board.) Point out (application) these parts to problems. Children name (drill) these parts and find them in problems.
3. Teacher go through process first herself.
4. Teacher direct class in going through process.
5. Teacher send class to board to go through process.

PROBLEMS FOR STUDY.

1. Discuss the merits and demerits of the textbook system of instruction.
2. What advantages and disadvantages are there in using the lecture method in teaching?
3. Discuss the values and limitations of development lessons.
4. Make a good inductive lesson plan in nature study for the first grade; in arithmetic for the first grade.
5. Plan an inductive development lesson in geography for the fourth grade.
6. Plan a deductive development lesson in grammar for the eighth grade.
7. What are the values of the drill lesson?
8. State the points to be observed in a drill lesson.
9. Plan two lessons in such a way as to secure these results.
10. Point out some improper uses of drill.
11. Study the subject of habit formation, selecting a special case in your own experience.
12. What is meant by automatization? Name some things that should be automatized.

READINGS.

Charters: *Methods of Teaching*, Chap. XIX. XXV.

Klapper: *Principles of Educational Practice*.

McMurry: *Method of the Recitation*.

Parker: *Methods of Teaching in High Schools*, Chap. X.
XVI.

Strayer: *A Brief Course in the Teaching Process*, Chap.
IV.-X.

Thorndike: *Principles of Teaching*, Chap. X.

CHAPTER XIII.

INSTRUCTION (*Continued*).

The Study Lesson.—One of the severest criticisms of the modern graded school is that the child is not taught to study in school, but is only assigned lessons which must be learned by himself in school, or else the books are taken home in order that the lessons may be learned in the afternoon or evening, alone or under the guidance or supervision of some other child, or the father or the mother. Recently the author had a strenuous complaint from a mother, who said that she had to give at least two hours a day trying to instruct her seven-year-old son. This seven-year-old boy is unusually bright in every way, yet, in order to keep up with his school work, he is required to spend two hours per day attempting to study at home, with his mother as his teacher. As a matter of fact, such a young pupil should have no home study at all, if the school does its work properly. Of course, if the school is only a place for “saying lessons back to the teacher” or “reciting” them, the study must be done elsewhere.

I realize that there are a great many difficulties in connection with this problem, no matter whether the child attends a well-graded village or city school or a rural school. The city teacher may have two grades, or two sections of the same grade, in which case the sections or grades are heard alternately, thus giving little or no time for supervised study. The case in the rural school is more difficult, for the reason that

the teacher may have to put all eight grades through recitations. When the work is thoroughly organized, if all the grades are full, the very best organization that can be made is in four divisions, with from eighteen to twenty-four recitations. Such a case offers a very real problem in recitations alone, to say nothing about a study lesson or supervised study.

Under present conditions it does not seem possible to make home study very valuable, for the reason that home conditions are not favorable to study. There is no special room or apparatus for it and there is no good helper, because parents are not ordinarily acquainted with present-day methods well enough to be of material assistance. Very often a crisis is precipitated by the youngster when he comes to a place in his study where he cannot do the work. If the parent helps him and the work is taken to school with a poor understanding on the pupil's part, he gets into trouble for "copying," and the parent is displeased, because apparently some time was wasted to no purpose.

Supervised Study.—All of these facts force us to the conclusion that some form or other of supervised study, done at school, under the direction of the teacher, is necessary for the best results. In a recent book by Professor Parker¹ will be found the best discussion in print on "Supervised Study." While much of the material of the chapter relates directly to supervised study in high school, much of it applies with equal force and value to the question of study in the elementary schools.

Attempts to Solve the Problem.—Various schemes and plans have been devised to help out the situation. Among the more important are the following:

¹ Parker: *Methods of Teaching in High Schools*, Chap. XVI.

1. *The Monitorial System.*—Some years ago it was the fashion for some of the more advanced and competent older students to teach the beginners in reading, spelling, and number work. The author remembers, with a good deal of interest and pleasure, how a big twenty-year-old husky boy tried to teach him and, as a result, became a big brother to him. This was his first school, and because of the large number of students it was necessary for the teacher to “farm out” some of the work. Even though the seat didn’t fit him, the author had the pleasure of sitting with that big boy, during school hours, who became his all-round protector and adviser. Possibly it was very good for both of us. Twenty or thirty years ago this was a common situation in the rural schools.

In most of the rural schools at present we do not have too many pupils, but we have so many recitations (because of the increased number of subjects poorly organized) that we have practically the same situation. One teacher cannot do all the work. It probably would not do to go back to the old monitorial scheme, but it does seem that some good, bright, eighth-grade pupils of maturity might help the children in the primary grades to work in drawing, manual training, spelling, music, nature study, numbers, and even in reading. Undoubtedly a skillful teacher could supervise much of this work in such a way as to get very good results and save a great deal of time. Moreover, it seems certain that the social values involved in such experiences are worth while for all concerned, and the plan, when really understood and administered, is much better than most home study and unorganized study between recitations.

2. *The "Batavia System."*—Bagley¹ briefly describes the "Batavia System," which was originated by Superintendent John Kennedy, of the public school at Batavia, New York. It has been urged in favor of this scheme that it provides for individual instruction by competent teachers and, in this way, the backward pupil is provided with the necessary special help to bring him up to grade. It virtually means supervised study. Of course, there is one danger to be guarded against, namely, that too much supervision and instruction tends to make a poor student out of the child, because too much has been done for him. It is difficult to see how very much of this scheme can be applied to a one-room rural school, but undoubtedly something can be done by the student helper, as indicated above, and by judicious alternation. In regard to the applicability of the "Batavia System" to general school situations, Professor Bagley says:²

"To apply the Batavia system to the work of any school, it is necessary to take but two steps: (1) provide definite periods for individual instruction; (2) impart individual instruction according to the principles named above. On the surface, the first condition may perhaps seem the more difficult of fulfillment; as a matter of fact, it is by far the simpler of the two. Contrary to general belief, the Batavia system does not demand the presence of two teachers in every classroom. The general method can be applied in one-teacher rooms, and is so applied in more than half of the Batavia classrooms."

3. *Special Teachers for Backward Children.*—In a well-organized city system, or even in a good town system, it is not unusual for a special teacher to be

¹ Bagley: *Classroom Management*, p. 216.

² *Ibid.*

provided to take care of the interests of backward children. Recently a single teacher was selected to have charge of the backward children in three elementary schools of a city system. The woman was one of unusual ability and she had turned over to her, for the purpose of instruction, about seventy-five children that had been reported as "failures" and "near-failures" by their teachers. Under her supervision and special instruction, sixty out of the seventy-five were promoted at the regular promotion time,—about as high a percent of promotions as were made in the whole school system.

Typical Study Lessons.—The following lesson plan was used by Superintendent Crissman in his observation class, immediately after a visit of Professor Findley, of the Department of Education in the University of Manchester, England. In a large measure the lesson is a typical "study" lesson.

PLAN No. 4.

Demonstration Lesson.—*Composition in Letter Writing.*

Real letter to Doctor Findley, Department of Education,
University of Manchester, England.

Aim:

Objective.—To acquire new *vocabulary* and new *apt* phrases.

To gain some knowledge of social forms and something about English schools (correlated with geography and history).

Subjective.—To develop thought power.

To develop larger interest in the people of the world.

To develop skill in expression.

To learn the art of pleasing others.

I. *Preparation:*

On previous day tell class that we are going to plan a novel and interesting letter for our lesson tomorrow. Give them some idea of general aims as stated above. Say that the interests and problems of *life* should be the interests and problems of the *school*. Are these aims dealing with the interests and problems of life? To-morrow I want the class to know the forms of a letter such as are found in the text on page —. Then turn to your geography and read the page. Then get article on Manchester and English schools. Then read *Tom Brown at Rugby*, and *Dr. Arnold*. (For character of English cities, see *Carpenter*, *Stoddard*.)

II. *Presentation:*

1. What two kinds of letters?
2. To whom do we write?
3. In writing letters what are some of our aims?
To please other people.
To get pleasure.
To acquire skill in composition.
4. What are the parts of the letter?

Introduction:

5. We asked you to think of some good salutations. Remember our aims.

6. (a) Dear Friend: (Boy).
(b) Dear little Friend:
(c) Dear little English friend:
(d) Dear unknown Friend:
(e) Dear —:
(f) Dear little English Cousin:

II. a. Shall we have any introduction? Long or short? Character. Our aims.

1. How would a question do?

Would you like to get a letter from a little school girl in the United States? Did you ever hear of Missouri, or St. Louis, or Kansas City? I know you never heard of Warrensburg and I suppose you don't know what a State Normal School is. Well, I'm a student in the seventh grade (you call it *form* in England, I think), in the Model School of our State Normal. Doctor Findley can explain to you what our school is like, for he visited us and told us we could write letters to you.

2. If we start off with a statement it ought to be appropriate:

When Doctor Findley was here he told us so many interesting things about his school that Professor Crissman, our Superintendent, said, "I have often thought it would be most interesting to receive a letter from some far-away country," so when——

I have tried to think what you might be interested in.

- b. The main body of letter.—What shall we write about? See below. Remember aim.

To please others.

Freshness, interest. Not commonplace.

Wit or humor.

Fit letter to understanding of recipient.

- c. Closing remarks:

May we have the pleasure of a letter from you?

We should like so much to have a letter from you sometime and hope you will *favor* us.

If I could have a letter from a school boy or girl in England we would all enjoy it so much.

Topics Interesting to Write About.

The European war and what side we sympathize with.

The prospective trans-ocean flight of the "America."

Books we use, cost, furnishing.

Our people.—Negroes, Indians, Mexicans, Italians.

Our schools.—Boys and girls educated together. Co-educational schools.

Our climate and location.—Sea and rivers.—St. Louis and Kansas City.

Our amusements.

The training-school.

Our studies and readings.

Our houses and yards and “dummy” automobiles.

Things we are proud of in our country and in yours.

Our history and yours.—Kings, lords, presidents, etc.

The Irish trouble.

Who teach school here.

d. Cautions:

Margin, capitals, periods, when begin and when end? Paragraph, and organization of paragraphs. Spacing between sentences.

e. Summary:

Aims.

The following is a study lesson plan of Miss Hanes, offered some time ago in a Principles-of-Teaching class in my Department. It illustrates to some extent a study lesson, though it is not offered as a perfect one.

PLAN No. 5.

Geography for Seventh Grade.

North America and its relation to other continents.

Teacher's Aim: To make the children conscious of the best method to be employed in logical thinking and to help them form the foundation for habits.

Pupils' Aim:

1. To learn how to study a lesson.
2. To know what points to study in finding the relation of one country to another.
3. To know where to get his information and how.

I. Position in hemispheres.

1. Zones.

Secure data from geography textbooks, maps, and globes.

2. Latitude and Longitude.

Compare difference in degrees of latitude and longitude of one continent or more with North America.

3. Relation to other continents in nearness.

Compare distances from North America to other continents.

Teacher must give data that cannot be gotten elsewhere.

II. Size.

1. Absolute.
2. Relative.

III. Outline.

1. General.
2. More definite.

IV. Surface.

V. Climate.

VI. Life.

1. Plant.
2. Animal.

VII. Resources.

1. Fur-bearing animals.
2. Fertile soil.
3. Minerals.
4. Forests.
5. Fisheries.

VIII. Political Divisions.

1. Capitals of each.
2. Largest cities.

IX. Productions.

1. Occupations of people.
2. Agriculture.
3. Manufacture.

X. Commerce.

1. Domestic.
2. Foreign.

In making comparisons, etc., pupil must have practice in using index and table of contents of a book.

If more can be gotten from lesson by the children working together, let them do so.

The best time to make an assignment is when, as a subject is developed, a problem arises which cannot then be solved. This gives interest and an end to be sought.

Teachers should ask frequently for a statement of the problem to be solved.

At every step in the progress of the pupil's thought he must test his conclusions by referring to known facts. For instance, he finds certain plant life existing in the western part of North America. Then he must apply the tests to show how the climate permits the growth of the plants.

Child must learn to keep a bibliography and also take notes when studying, to learn to write in a very few words the gist of a paragraph or page. Must learn to discriminate between what will be of value to him and what will not.

Compare with other countries. Learn why they are the largest cities and their location.

Work must be organized. Has the climate affected the occupations in any way? How?

Do the connections by waterways have anything to do with the commerce of two continents?

What is domestic commerce?
Foreign?

The Testing Lesson.—We have already pointed out that the recitation is perhaps the most important school exercise. In this exercise we are continually testing the pupil's knowledge, trying to have him discover values of subject matter, and we are con-

tinually trying to measure the thoroughness with which this knowledge has been assimilated. Therefore, in a very large measure it is true that any lesson is more or less of a testing process.

The most common form of the testing is that requirement which demands of the pupil oral expression of the ideas which have been mastered. There are also written tests, which may be required weekly, monthly, or at the end of terms; but it should be borne in mind that when the questions or topics are handled so as to provide for consecutive composition, the ordinary oral work is probably much more important than the written work. No more valuable habit can be formed than that of thinking accurately, quickly, and connectedly in the presence of our fellows. The oral test on composition in ordinary class work provides an ideal opportunity for the formation of this habit. In all classes we have the limitation that it is not possible for all members to have this opportunity every day, but a skillful teacher can use the method in such a way as to provide some experience each day for all the members of an ordinary class. By reviews and special assignments, in a more important way, the teacher should endeavor to catch each of its members at least once a week.

Children in rural schools especially need to be required to make considerable effort at oral expression, for the reason that their ability to express themselves usually falls far behind their experiences. The school should make a conscientious effort to provide for this needful balancing between experience and thinking on the one hand and suitable expression on the other. The average town and city youngster is ordinarily more capable of expressing his experiences and ideas than the country

child. This is not because he actually knows more, but because he has lived in a better situation for acquiring facility of expression.

The elementary-school teacher should take the foregoing facts into account fully in dealing with language-training. Written work requires too much time to permit of its assignment as a daily task, but it may be used as a medium for weekly and term exercises, to help to determine the degree of mastery acquired over the subjects studied. It should be recalled, however, that ability to write and ability to speak or talk are not based on the same habit formations. We must be trained in such a way as to set up the appropriate habits for each. Therefore we should not urge written work on the assumption that it is so very valuable in helping us to secure oral expression in composition work.

We should always make sure that the child has something that he wants to say, before we insist on much oral or written work. And we should remember that the technique of writing is acquired much more slowly than that of speaking. We have all been the victims of *written* examinations, and been requested to hand in formal compositions when we had nothing to say.

It has been urged that one of the most valuable things about a written test is that it provides equal opportunity for expression; and that it is a fair test, because all the children are expected to do the same task. This is not the case. If we were training parrots the reasoning would be good, but we want to instruct children so as to allow for a degree of individuality. Instead of being entirely fair and just, the written test may be full of unfairness and injustice. In fact, the only entirely fair written

test is the one which offers opportunities to the child to write on all the subject matter which has been taught in the lessons of the day, the lessons of the week or term. This should include supplementary work as well, because we are never altogether sure what the reaction of the child has been to these various phases of the work. Moreover, the written test cannot possibly take into account all of the previous experiences of the members of the class.

All of this does not mean that the author is opposed, unalterably, to written work and especially to written examinations, but it does mean that the written work, as it is being conducted in many schools, is a *mere form*, through which we put the children, and is therefore uninteresting and possesses relatively small educational value. In both oral and written testing we should keep in mind that each should enable the teacher to determine whether or not the vital things of the curriculum have been assimilated by the child in such a way as to insure a correct appreciation of the values of that material, and that there is an adequate motivation so that these values will finally function in conduct and character.

Another useful way to test the ability of children is to assign them special papers, on particular topics, to be written and read by the class and to be discussed orally before the class. These have large possibilities and a wise teacher, through them, may bring richness to the recitation and provide a means for securing suitable tasks on the basis of individual differences and, at the same time, develop a large measure of personal responsibility.

Such work as this is done on the highest motive, namely, that the child is mastering the material

in order that it may be presented to his fellows. One of the very bad situations from a general class assignment is that the lesson is learned too commonly on the sole basis of emulation, or to "beat" the other fellow. We have all witnessed a reading-class in which a good reader took rather fiendish delight in reading the lesson in such a way as to outdo all the other members of the class. As the pupil sat down after the performance, he looked around and, by his attitude, seemed to say: "I simply dare any of you to approximate that effort." This is a morally bad situation and may be remedied by having individual assignments in the reading lesson made in such a way that the *ideas* to be presented are the important things and not the outdoing of some other members of the class.

In all teaching and testing we must not forget the fact that the securing of personal and social power is a more important thing than the accumulation of a large number of facts, which any scheme of testing may unduly emphasize, unless guarded.

The writer does not think it is important to present plans primarily for the purpose of showing how to test students. Lesson Plan No. 1, under *Inductive Lesson*, involves some of the more important features of testing as well as induction. In another place the art of questioning has been considered at some length and, as indicated at the beginning of the discussion, it is so much a phase of every recitation that it does not seem important to offer at this place any special lesson plans.

The Lesson for Appreciation.—One other lesson form has come recently to have a place in formal instruction, namely, the lesson for *appreciation*. No doubt appreciation, in many of its phases, has always

been an important consideration in the various forms of instruction, and this factor of course is present in other types of lessons. It seems to have come to occupy a more formal place now than heretofore, because we desire to emphasize the æsthetic element in education. The literature on this lesson form is scanty. Strayer¹ gives a very good discussion of it. Likewise, Parker² treats the problem on the ground that the school should prepare us for the enjoyment of our leisure. The author has discussed the problem at considerable length in his chapter on "Play and Recreation." Unquestionably, American schools should do much more to prepare us to appreciate in nature, music, and art, all of those finer things necessary for the highest valuation of human relationships. The whole point of view of this book is that of having the school organized and administered in such a way as to make us capable of appreciating and adding to the finest achievements of the race, in order that we may be united and efficient workers in our present complex society.

The following lesson plan is used in the eighth grade by one of the supervisors in our training-school, primarily for appreciation:

PLAN No. 6.

Teaching of the poem "Absalom."

—(N. P. Willis.)

Class: Eighth Grade. Third Quarter.

Teacher's principal aims:

1. To lead to the enjoyment of a superior piece of literature.
2. To read the well-known story in poetic form.
3. To master the mechanics of reading, so as to read the poem with expression and understanding.
4. To appreciate the great moral idea of the poem.

¹ Strayer: *A Brief Course in the Teaching Process*, Chap. VII.

Parker: *Methods of Teaching in High School*, Chap. X.

Subject Matter.

The poem—
 "Absalom."
 The author.

The setting.
 Biblical—historical.

Setting—
 Geographical.

The story of the poem.

Structure of the poem.

Second reading for appreciation.

*Method of Procedure.**Recitation.*

The author—
 Nathaniel Parker Willis.

Wrote for *The Youth's Companion*, which was founded by his father. Hence he has contributed to the enjoyment and education of many school boys and girls.

This poem is probably his masterpiece, *i.e.*, his finest poem.

The poem is founded upon the story found in 2d Samuel, xviii. (Story briefly told.—Five sentences.) Absalom's rebellion and death.

Map of Palestine. This can be found in any Teacher's Bible.

Locate the River Jordan, Jerusalem. Locate, if possible, the wood of Ephraim, where Absalom was killed.

Read aloud the poem, stanza by stanza.

There are no words whose pronunciation should be difficult.

Note the parts.—

First thirteen lines are introduction.

From the thirteenth to the forty-third the lines are related to the events preceding the battle.

The remainder give the events following the battle.

a.

Read aloud the introduction. What is the picture presented to you? Note the words and phrases most happily chosen for presenting this picture.

What is "Night's silvery veil"? Meaning of sentence, "The willow's leaves," etc.?

Read aloud again in the light of the discussions and make us feel

Subject Matter.—(Continued).

Method of Procedure.—(Continued).

the calm and peace of nature as here described.

b.

Read aloud to line 26. What is told you?

Note lines 26 to 31. How do they differ from what precedes and follows?

c.

Read aloud lines 22 to 41, omitting 26 to 31. Is there any break in thought?

What then is the value of lines 26 to 31?

d.

Read aloud 42 to 60. What is told you? Read remainder of the page, or to line 71. What is told?

Note the custom of the people as given here.

e.

Read again, aloud, stanza by stanza, King David's Lamentation.

Why does he refer to Absalom as "My proud boy"—"My lost boy"?

What is the cause of the *extreme* grief?

Read aloud the conclusion.

What shows the character of David to be such as became the character of a king?

Note the *satisfying* way the poem closes. What expressions make the closing seem so fitting?

Reading of Lamentation.

Structure.

Reading the conclusion.

Assignment.

Bring to class tomorrow the lines or stanzas you think are best.

Be prepared to read these aloud to the class.

Bring written in your own way the introduction to the poem.

Have it ready to read well aloud.

Selected passages to be read.

Written work.

The following is a lesson plan for the appreciation of a beautiful picture, submitted by Miss Goss in a

recent class in the Principles of Teaching in the State Normal School at Warrensburg, Missouri.

PLAN No. 7.

Lesson for Appreciation. Eighth Grade.

Study of "Spring," by Anton Mauve.

Teacher's Aim: To develop appreciation of good composition.

Pupils' Aim: To discover what is the center of interest in the picture and why the other objects are placed as they are.

Materials: Picture "Spring," by Anton Mauve, in the hand of each pupil; large picture in front of the room, where all can see; sketches of different spacings of the picture; blank paper.

Subject Matter.

I. Getting the problem before the pupils.

II. The picture itself.
Center of interest—
Sheep.

To the right of the center of the picture; to the left of the great mass of sheep.

Method.

Let us look at this picture called "Spring," painted by the Dutch artist, Anton Mauve. What is the first thing you notice when you look at this picture? Do you suppose the artist intended that we should notice the sheep first? Why do you think so? Let us see if we can discover what it is Mauve wants us to be the most interested in. Where are the sheep placed in the picture? About how much of the picture space do they occupy? Notice the figure of the shepherd. He is rather a prominent figure with the shepherd's crook. Do you think the artist wants us to be more interested in him than in the sheep? Why do you think so? Let us consider his position in the picture. Where is his figure placed in relation to the sheep? Let us take two pieces of blank paper. Place one just below the feet of the dog—the other just above the shepherd's cap. Now, look at the picture. Which demands your attention first, the sheep, the shepherd, or the dog? Which next? Which last? Why is it the dog attracts the least notice? Then if the artist had wanted our interest to

Subject Matter.—(Continued).

Sky, meadow, trees.

Subordination of detail.

Center of interest.

III. Placing.

1. Why the artist has placed everything as he has.

Row of trees running back into the picture.

Method.—(Continued).

center in the shepherd how would he have placed his figure in the picture?

What besides these figures do you see in the picture? Do they cause you to divide your attention between them and the sheep? Why is it that they don't? What then do we find to be the center of interest? And in order to make us look at the sheep, what has Mauve done to everything else in the picture? We call this subordination. (Write word on board.) And what else must we have in a picture besides subordination?

Let us notice the sky and meadow. Which occupies the greater space? How else might the sky and meadow space have been divided? Let us see how we would like to have the space division of the sky and the meadow just the same. (Teacher shows a sketch with such a division.) Do you like this better? What is there about it that doesn't satisfy us? Suppose we try having more sky than meadow. (Teacher shows a sketch so spaced.) What is the center of interest now? Do the sheep hold our attention now as they did before? Why? In order to have them the center of interest in this picture, what would we have to do? Just see how carefully each thing has been thought out.

Compare the height of the trees behind the shepherd with the height of the grass behind the shepherd. What do you find? Why did an artist ever do such a thing as to paint grass taller than trees? In order to make objects appear near to one how are they painted? When far away? Do you notice anything else which makes us feel distance? Suppose the row of trees had been placed across the page? Would

Subject Matter.—(Continued).

IV. Balance.

1. Light and dark.
2. Masses and spaces.

The great space on the opposite side.

Dark shadow balances light of sheep; dog balances two sheep in front of him.

V. Summary.

1. Must have center of interest.
2. Subordination of detail.
3. Space broken up into pleasing relations.
4. Balance of light and dark; lines and spaces.

VI. Assignment

Method.—(Continued).

we still have felt distance? Let us see if this is so. (Teacher sketches trees as indicated.) This doesn't seem so good. We feel that the artist knew best.

How many of you ever played on a see-saw? (Have a pupil explain.) How do you manage to preserve the balance when you have a small child on one end of the board and a large child on the opposite end? This same principle of balance must be observed in painting.

In the picture why is it that the artist can put the sheep, the shepherd, and the row of larger trees more to one side and still not have the picture seem sideways? What is it that keeps the balance of the whole? What dark mass balances the light mass of the sheep? Does the dog seem to balance any particular mass of light?

In looking at a picture what is the first thing we want to notice? If there is not one particular thing to hold the attention and to keep the eyes from wandering from one object to another object in the picture what can we say about the picture? What besides a center of interest must we have?

For tomorrow take the picture "The Gleaners," by Millet. Tell what is the center of interest, what objects are subordinated to this center of interest, and how are the different objects balanced?

The following is a lesson for the appreciation of music, offered in a class in the Principles of Teaching in the State Normal School at Warrensburg, Missouri, by Miss Cockrell. The plan is one of special interest, because it opens up immense possibilities in the appreciation of good music.

PLAN No. 8.

Seventh or Eighth Grade.

Subject: The "Humoresque," by Anton Dvorak. Presented by means of a Victrola record, played by Fritz Kreisler.

Teacher's Aim: To help the pupils understand and appreciate this piece of music, and to lead them to a better understanding and appreciation of music in general.

Pupil's Aim: To enjoy the "Humoresque."

Subject Matter.

The form of the selection. It has three main divisions: of these the first has three subdivisions; the third has two subdivisions. The second is complete in itself. Of these subdivisions, the first and third, in the first part, are identical, except for the cadence. In the third part, the first subdivision corresponds to the third subdivision of the first part. These are exactly alike. The second subdivision of the third part is identical, except for the cadence, with the second subdivision of the first part. The second main part is totally unlike either of the other parts. Thus we have, on the whole, a three-part form, the first and third parts of which are alike while the second part is contrasted.

Character of the selection:

The first section, or subdivision, is very light and fantastic in character. The second subdivision is in contrast to this, rather plaintive, although equally light. The third subdivision is a repetition of the first.

In the second main part, the

Method of Presentation.

Tell the class, briefly, what the piece is, who wrote it, and by whom it is played. Then play the record over.

Have them write down the following questions: How many main divisions has this piece? Are they of equal length? How many subdivisions? Is any subdivision repeated exactly? Which one? Are any repeated almost exactly? Which ones? What is the variation?

Can you answer any of these questions? If so, which ones? and how would you answer them? (Play the piece again. Take up the questions in order, working out the diagram as questions are answered.)

$$\begin{array}{ccc} \frac{1}{1:2:3} & \frac{2}{1} & \frac{3}{1:2} \\ \hline \end{array}$$

(The above diagram should be worked out on the board, using colored chalk to indicate the corresponding sections, where I have used lines under the numbers.)

Why are some of the sections repeated? Would you like it better if there were no repetition, and every section were totally different? Why not?

What is the character of the first subdivision? (Explain what is meant by "character.") Of the second? What is the difference between the two? Character of the third subdivision? Is it exactly like any other? Is

Subject Matter.—(Continued).

character of the piece changes entirely, being not only much heavier, but sad and mournful in tone. This effect is accomplished partly by a modulation into a minor key. This part of the selection is mainly harmonic, whereas the first and last parts are almost entirely melodic.

The third part is very much like the first, except that the second subdivision differs slightly in character from its corresponding subdivision in the first part, being rather slower and more plaintive in character.

Interpretation: Kreisler's interpretation is, of course, practically perfect. Among the notable features are the delicacy of touch in the first and third parts, the skill with which the ornamentation is handled, and the complete change of treatment in the second part, where the passages are heavier in character. The tone seems almost to come from a different instrument.

Summary: The three points to be emphasized in this piece are its *form*, its *character*, and its *interpretation*.

Method of Presentation.—(Con.).

there any contrast between these divisions? Do you like the piece better because of this contrast? What is the character of the second main part? Is it like anything that has gone before? In what way is it different? Would you like the selection better without this part? The piece is called a "Humoresque;" does the addition of a serious part make this name unsuitable? Why? or Why not? What is the character of the third main part? What other part does it resemble? Is the last subdivision like anything that has gone before? Are they exactly alike? Why not?

Do you think that this selection is well played? Do you think it could be improved upon? How many have ever tried to play a violin? Is it easy or difficult? Do you believe that if you should practice and study you would ever be able to play like that? What parts of the selection do you think would be hardest to play? Why? Is there any difference in the quality of tone throughout the piece? Do you think the difference would be easy to obtain?

Do you like this piece? Why? What are its main points of beauty? I will play it over once more and let you see if you enjoy it more after having had it explained.

PROBLEMS FOR STUDY.

1. Enumerate and value the arguments for and against home study.
2. Recall cases of wasted time in your own experience because of poor lesson assignments.
3. What is meant by a study lesson? How should the study lesson in school be managed?

4. How may the "study recitation" be conducted?
5. Name and value the ways of testing the knowledge of children.
6. Can we value or test habits formed in school? How?
7. What are the objections to a reading assignment which is the same for all children of the class?
8. When is an examination fair?
9. Why is the country boy or girl usually unable to make good oral or written compositions?
10. Why are many city children incapable of assuming responsibility?
11. Tell how to make a wise use of supplementary material.

READINGS.

Charters: *Methods of Teaching*, Chap. XIX.-XXV.

Hayward: *The Lesson in Appreciation*.

Klapper: *Principles of Educational Practice*, Chaps. XV., XVI., and XXII.

McMurry: *Method of the Recitation*.

Parker: *Methods of Teaching in High Schools*, Chap. X.-XVI.

Strayer: *A Brief Course in the Teaching Process*, Chap. IV.-X.

Thorndike: *Principles of Teaching*, Chap. X.

CHAPTER XIV.

THE NEW CURRICULUM.

Origin of Subject Matter.—The subject matter of the elementary curriculum has accumulated through a long process of accretion, without any counter process of elimination. We are all aware that the “stuff” out of which we make all kinds of curricula is the definite product of the race, or some members of it, trying to solve important problems. For example, the myths of the Greeks are the results of a primitive people trying to obtain a suitable explanation of the relation of man to nature and the unseen world. This may have been very valuable for the Greek, but Greek Mythology cannot have the same value to us that it had to them. The reason is evident: we have learned so many more facts about nature and are able to instruct children as to their important relations to nature in a much more effective way. Moreover, we do not need the myth to explain our relation to the unseen world, because we have made considerable religious progress in our knowledge about God since the time of the ancient Greek. In spite of all this it is easy to find a modern curriculum which includes many Greek myths.

Many other interesting examples might be given, showing that such matter still persists in our courses of study, notwithstanding that it has only historical value. Arithmetic presents numerous such illustrations. Many texts still persist in giving elaborate presentations of *partial payments*, *bank discounts*,

and even *alligation medial*, notwithstanding that these types of business activity are practically only matters of history.

There must be a most critical revaluation of much of the experiences of the race, as it has been expressed in many forms, in order to determine how much of it and what part of it we need at the present time. We must remove a good deal of the "dead timber," which has almost no value at the present time. We must do two things to bring about this revaluation: first, eliminate a large part of that experience of the race which has only historic value; and, second, effect a reorganization of the remainder in such a way as to secure the social value involved in it.

THE LANGUAGE OR EXPRESSION SUBJECTS.

Primitive man communicated with his fellows by means of signs and grunts. Modern man has evolved most elaborate and technical languages to do the same thing. Among the more important subjects in the elementary curriculum which have *expression* as their chief end are Reading, Spelling, Writing, Language and Grammar, and Literature; and we may add Drawing and Music. Here we have eight subjects out of which we try to get a social art, namely, the expression of thought. Even the casual student of pedagogy who looks over a modern curriculum quickly becomes aware of the enormous amount of waste, due to the fact that there is no organization among these subjects; indeed, it is common to find them occupying five or six places on the daily program, although they involve only two important things, namely, written and oral language.

Quite recently the author had occasion to examine the lessons of a grade in a supposedly well-organized school, where he found the following conditions: The children had a reading lesson with one vocabulary, they spelled with another set of words from the spelling-book, the language lesson included quite another set of words, and even the writing in the copy-books did not call for many of the important other words in these subjects. Furthermore, it was discovered that the oral vocabulary which these children used before coming to school had never been mastered. All this is a careless and inexcusable waste.

We must set ourselves resolutely to the task of unifying these various phases of the art of communication, in order to save the child's time and to secure thoroughness. If there is any reason why a child should endeavor to master three or four sets of words in a single day, that reason is not apparent to the thoughtful man or woman.

In order to point out some of the more important aspects of this problem we will consider the expression subjects, one by one, as they are listed above.

1. **Reading.**—Reading, which has been called the most important school task, offers many difficult problems, one of the chief being that of making the most valuable selections out of the great wealth of material now available. As all literatures of any importance have been translated into the English language, we have at our command the whole field of race achievement. No adequate study has been made to ascertain the comparative values of these various literatures for American children. Consequently, the best we can do at present is to offer a considerable variety from the most important

literary forms. For the primary grades we include myths, fairy tales, stories, nature studies, history, biography, and fables, and we make special provision for such material as may be used for dramatization purposes.

Methods in Teaching Reading.—We still use many methods in the teaching of reading, the more important being the *alphabetic*, the *phonic*, the *word*, and the *sentence*. We usually think that some combination should be made out of these, but we are not quite sure about it; indeed, it seems that when children are taught by a skillful teacher they may learn to read by almost any method. However, we should see to it that in the early grades the mechanical factor in learning to read is mastered in such a way as to give speed and accuracy to the efforts of the child.

Reading should be a genuine telling of something, and not a parrot-like repetition of words and phrases. This cannot be accomplished when we make the same assignment for all children. In order to have the very best learning situation, children should have some reading material which is peculiarly their own when the class hour comes. Therefore, the best results may be secured by much individual assignment. The finest test in reading is to be found in the student's ability to get *thoughts* from the printed page, which can be ascertained by oral composition, or by retelling the material. The formation of good reading habits is a very important matter, for both oral and silent reading, but ability in oral reading is not so important as formerly, because of the great number of cheap books, which enables one to do his own reading.

Good habits of silent reading are exceedingly im-

portant, because much of the work of education consists in mastering the subject matter of books. The wide range of individual differences in the matter of reading indicated in the experiments referred to in the chapter on "Psychological Factors Involved in the Processes of Education," shows that one student spent nearly four times as much time as another in reading the same selection, and that no proportionate thought mastery followed. Indeed, the student who spent only ten minutes on the reading was much better in the work of reproduction than the one who spent thirty-eight minutes. Certainly the school should try very hard to give its members efficient habits of silent reading.

2. **Spelling.** — Spelling is of importance primarily in that it contributes to accuracy. The school is concerned with two forms of spelling, namely, *oral* and *written*. The old-fashioned school put almost all the emphasis on oral spelling, in which students were urged to memorize, as well as they could, all the words of some spelling-book. However, we have since learned that one may be a good oral speller and still be a very poor written speller, because the two involve different habits. Of the two, written spelling is much more important to us, because we have use for it in all written communication, whereas we have scarcely any use for oral spelling.

Methods—Selection of Words.—We may take the list of words to be studied from a special spelling-book, which is the most common practice at present; from all the subjects of the school course; from selected lists taken out of the written work; or we may make lists of words which have been misspelled in some of the ordinary school work. No

doubt the spelling-book will continue in use for many years, but unless it is used with a very considerable degree of discrimination it certainly is a very wasteful way in which to learn spelling, because by it we learn only words, without any positive assurance that they have been mastered for use.

It takes a great deal of time for the teacher to go over the whole range of school subjects and make a selection of words for the children, but, in the long run, this is a most valuable thing to do and, after a teacher has once made the selection, that method would make very little additional demand on her time. Undoubtedly it is desirable for the teacher to scan the written work of pupils, to make lists of words used by them which are still incorrectly spelled. Quite often these are very simple, common words, and enough drill should be put upon them to have them mastered. In any event, the spelling work should demand a mastery of the more important words of the community life, in such a way as to secure both speed and accuracy.

The matter of teaching the diacritical marks is a mooted question, some teachers insisting that they should be taught in connection with the spelling and others in connection with the reading. There is no expert evidence to be offered in the matter. The author is inclined to the view that they should commonly be taught in connection with the reading, when the words are first shown to the children, as they are absolutely necessary to the understanding and pronunciation of many of our curiously spelled English words. Leaving them off in connection with ordinary reading causes little disturbance, because as soon as we learn to recognize words we do it mostly by "cues" and not by a critical examination of them.

By the time children have gone through the fourth grade they should know how to use the simpler diacritical marks, so that they can pronounce new words by themselves.

3. **Writing.**—We have no standards of any kind concerning writing. Most grown people have had to learn two or three different systems of writing, and it would be foolish to speak of any one writing system as *best*, or even *good*; in fact, the system or method by which we learn to write seems to make little difference. The main thing to keep in mind is to secure a reasonable degree of legibility and speed. Indeed, it seems that writing as a school exercise and society accomplishment may diminish in importance rapidly, for the reason that we now use the typewriter for all important purposes. It is not an unusual thing to have the class exercises in the elementary high schools and colleges submitted to the teacher in typewritten form, because the student can write better this way than in longhand. Indeed, the work of the typewriter seems destined to supplant all hand-work in commercial transactions.

No doubt the copy-book method of teaching writing will be used for many years, even though it is unsatisfactory in many respects. The tests prepared by Thorndike and Ayers, in scale fashion, to represent the degrees of progress, are much better than the copy-books, because they furnish much better measures of achievement. The chief objection to the use of a perfect copy is to be found in the fact that it presents to the children an impossible standard; whereas a scale, which shows progress by months or years, offers something which can be accomplished.

4. **Language and Grammar.**—We have already ob-

served that the learning of a language comes about primarily through imitation; at least this is true in so far as it relates to oral language work. The great importance of the use of correct language in the home and by the teacher and other associates of the child therefore becomes apparent.

So far as school work is concerned, language training should come, primarily, out of all school subjects and activities rather than from a specialized group of exercises taken out of a book. It is a much more valuable language training to describe a baseball game accurately, to tell how to make a sled, give a clear statement of the processes involved in the solution of an arithmetic problem, or to tell how to bake biscuits, than it is to do some formal things demanded in a language text. The concrete exercises grow out of important activities of the school and home and therefore have value and vitality in them.

Grammar is the formal side of language training and is largely an after-thought in the evolution of language. The race got along for many centuries without constructing any grammars. The very nature of its subject matter renders grammar exceedingly difficult for the elementary school; in fact, it is the author's opinion that most work in grammar should be done in high school or college. Furthermore, it has been taught almost altogether by the deductive method. Instruction in the elementary school should be largely inductive.

All the parts of speech may be taught in this way. For example, it is quite simple to teach, informally, one of the important facts included in the ordinary verb definition. All that is necessary is to have the children do a great many acts, such as run, jump, sing, whistle, write, walk, talk, whisper, draw,

work, play, cry, laugh, see, hear, touch, smell, taste, saw, etc. After all these acts, it is a very simple matter to generalize, saying that the word *verb* is used as a general term for the word describing the act. A similar procedure can be followed for nouns by making a list of all the names of objects which can be found in the schoolroom or school-yard or in the home.

Every study of sentence structure should be made on the basis of sentences used by the children in the various school activities, instead of those hunted out of books; at the least this should be the *beginning* of sentence teaching. At all events, most of the grammar work should be of the simplest character and taught in the seventh and eighth grades.

5. The Study of Literature.—In choosing literature for the children to study, such pieces should be selected as may be used as literary wholes and as have in them values to children. Not too many classics should be chosen, but a great deal of selection should be made from contemporary literature, including travel, essay, oration, debates, short stories, etc. Sometimes an effort is made to study literature formally in the elementary grades; this should be reserved for the junior or senior year of high school, after the pupils have studied general history. The literature work that is done in the grades should be primarily for appreciation, rather than to make any considerable technical study of form; the form side should be incidental rather than the main thing. Not the details about some bit of literature, but the main features should be emphasized.

Much supplementary reading can be done by the children for additional information and home study, and much should be provided from the school li-

brary. As has already been intimated in another chapter, this is one of the very best ways of providing for important individual differences in taste and capacity. To be of the greatest value, the teacher should suggest the reading, taking into account the needs and differences of the children. Moreover, some accounting should be required from the children concerning this outside reading, if best results are to be obtained. Occasionally a Friday afternoon should be devoted to the reproduction of interesting information gained from supplementary reading.

6. **Drawing.**—The so-called fine art of drawing, which includes all phases of representation, has been getting into the required curriculum of the elementary school, slowly, for some years. In some states it is required by statute; in other states and towns it has come in by direct enactment of school boards and state superintendents; in a great many towns it has no assured place at all; and its story in rural schools is quite a sad one. Undoubtedly the time has come for a complete recognition of this subject and it should be made a requirement of the modern elementary curriculum. We know that more children, proportionately, can be taught drawing effectively than can be taught to read, spell, or “do numbers” accurately. The day is past for any consideration of the notion that drawing requires some special gift or genius in order to be learned or appreciated. We must recognize its value as helping to bring about complete development of the human mind.

Among the more specific values that may be urged for drawing are these: 1. It is a most excellent way of expressing our thinking and feeling. 2. It has

direct economical value in that the subject of *design* is very important in determining the commercial value of many articles. 3. It has important scientific values also, because it is used as an aid in recording many of the discoveries of science. 4. Its æsthetic value is apparent in that it gives to those who have a knowledge of it a peculiar capacity to appreciate many of the finest things in nature and the race experience.

A very good case for drawing could be made out even if we based the argument on economic grounds alone. At the present time in this country there is an urgent need of good designers. One of the reasons why foreign manufacturers have won out so many times in the competition with American manufacturers is that they have been able to offer better designs. We buy clothing, rugs, furniture, china, jewelry, in fact almost everything, because of what we call "style," which is only another name for design. Generally, we know very little about the beauty or fineness of the material used in the making of an article; we are attracted by the *pattern*, which some designer has made.

Drawing involves manual dexterity, which can be secured only while there is muscular pliability, and the habits must be set up during this period of plasticity. Therefore, the subject should be introduced in the very beginning of the elementary curriculum and continued throughout the eight grades and the high school.

Subject Matter and Methods in Drawing.—Usually, the instruction in drawing has been entirely too formal, because it has consisted mainly in copying subjects taken from a drawing-book. Freehand drawing should begin with the instinct which children have

to express their experiences. In fact, children do not copy from books or objects, but try to express their knowledge and experiences by drawing or scribbling. In other words, they draw "out of their heads" without any immediate external stimulus. In choosing material these facts should be kept in mind, as they determine in a great measure the range of choice. To be sure, it will be necessary to bring directly to the pupil's attention significant subjects for additional observation. Another defect in the teaching of drawing has been that too many different subjects have been used, with the result that only a very poor organization of the subject matter has been possible.

It is desirable that useful type studies be selected very early in the child's school career, and then kept for several years of the course. For example, trees, houses, domestic and wild animals, flowers, and landscapes are already a part of the child's experience when he comes to school. After the types have been selected they should be managed in such a way, through the grades, as to provide for increasing difficulty and interest. This should be done instead of choosing different studies. As soon as the children have accumulated some knowledge about art, they should be introduced to some of the masterpieces involving the special type under consideration.

7. Music.—In a large measure the statements made concerning the introduction of drawing into the public schools are as true of the introduction of music. There is no general statement which can be made about its status in elementary curricula. Some states absolutely require it; in others it has come in without any statutory requirement; and in a great many states it has no standing whatever, especially

in the rural schools. Undoubtedly the time has come for a complete recognition of music as offering those values which ought to be secured by all children.

Among the more important considerations which may be urged in favor of the teaching of music are the following: 1. Inasmuch as music is primarily the language of the emotions, we should teach it to give direction and control to the emotional life. It is employed in all the emotional crises of life as is no other mode of expression. In the form of song or instrumentation we use it to express the highest feelings of which we are capable,—in joy, sorrow, love, patriotism, worship, and adoration. Undoubtedly the school should do more to provide its children with this means of expression, not in order to make mere *artists* (as was thought formerly), but that the children may learn to live through the ordinary human experiences in a perfectly sane way.

2. Music has also very positive moral and social values; indeed, it has been said that it is primarily social in its ministration. It is certain that there is no better way to unify the school spirit, as well as to provide for its group enjoyment, than through music. The practical application of this is no small problem for the rural school, in view of the small number of children and the usual lack of any instrument to play accompaniments. As was suggested in another chapter, possibly the victrola (or some other mechanical way of reproducing music) may come to supply some of the instrumental deficiencies.

Subject Matter in Music. — The greatest difficulty in all musical instruction lies in the fact that the literature of music is unorganized. Some wise critic should go through its literature and organize it in such a way as to set out good selections, ap-

propriate to secure the fundamental values urged above. When this is done, these selections should be taught to all children. It is of some advantage that children learn to sing only, but it is of much greater importance that they should learn to sing the songs which express the sentiments vital to human satisfactions. This literature should include the masterpieces in song which relate to the home, our country, love, joy, sorrow, and worship.

Methods.—Usually, too much time has been spent on the technique of music in the instruction of small children. This represents the formal and abstract phases of the subject and is therefore of little interest to young students. They should learn by rote, memorizing both the words and the music of three or four songs per month. Very little technical instruction should be given before the seventh and eighth grades,—only a few simple facts about the scales and reading of notes.

PROBLEMS FOR STUDY.

1. How does all subject matter originate?
2. How and why did subject matter get into book form?
3. Why are we so reluctant to leave out subjects which have once found their way into the course of study?
4. Why is it so difficult to introduce new subjects into a course of study?
5. What subjects or topics would you leave out of geography? history? arithmetic? grammar? composition study?
6. Is the mastery of oral or written language more important? Give reasons for your answer.

7. Try to organize a course of study in the Expression subjects based on the theory of the author.
8. Make an argument for the introduction of drawing into all schools based on its scientific, economic, and æsthetic values.
9. Can all children learn something about music?
10. What are the individual and social values of musical training? The moral values?
11. Of what value is it to one to study music who cannot learn to sing?
12. Outline a good course in Elementary Reading, by grades, in such a way as to include the various literary forms.
13. To what extent would you teach technical grammar in the elementary school? Discuss in detail, giving reasons for your conclusions.
14. If the typewriter is to displace script for business and many other purposes, why should so much time be spent in learning to write?
15. Give the advantages and disadvantages of a spelling-book for the grades.
16. Try to evaluate the various methods of teaching reading.
17. Make a study of a half-dozen modern primers and first readers to try to determine how they have been affected by the various methods of teaching reading.

READINGS.

Betts and Hall: *Better Rural Schools*, Part II.

Charters: *Methods of Teaching*, Chap. II.-IV.

Charters: *Teaching the Common Branches*.

Cubberley: *Rural Life and Education*, Chap. XI.

Dewey: *The Child and the Curriculum*.

CHAPTER XV.

THE NEW CURRICULUM (*Continued*).

NATURE SUBJECTS.

IN the second group of subjects are those which grow out of our natural environment and which we call *nature* or *natural-science* material. We have accumulated a vast amount of information about the simple and more complex facts of our natural environment. Among the more important subjects of study may be mentioned, Nature Study, Descriptive and Physical Geography, Physiology, Hygiene, Agriculture, and very frequently we find elementary phases of Chemistry, Physics, and Biology. The examination of any elementary curriculum found in a state course of study, or in a town or city course of study, will reveal vast bodies of subject matter which might be cataloged under one or more of these names.

Here we have a fine example of chaos. There is no principle, sequence, point of view, or unity among all these subjects. Very generally we recognize the fact that a knowledge of nature has two sets of values,—one utilitarian and the other æsthetic. From the beginning man has been taught that he should master Nature, so that she may serve his needs. Notwithstanding this fact, in our accumulation and arrangement of material, these various subjects are taught without any organization based on this functional point of view. Undoubtedly, in the near future, we should be able to organize all of

this nature-series core for our elementary curricula in such a way that it will run through the entire elementary school, from the first to the eighth grade, with this single point of view, rather than teach a great number of "tidbits" of knowledge almost wholly unrelated. It is not an unusual thing for two, or even three, sections of this knowledge to be required for the same grade. We will discuss briefly some of the subjects which are used to make up this core.

1. **Physiology and Hygiene.**—Of first importance among the nature subjects is Physiology and Hygiene. We do not need to know much about anatomy, but knowing how to live a vigorous, hearty life is of vast importance. The study should begin in the very first grade with mouth-and-nose hygiene, cleanliness, the necessity of fresh air and exercise. Inasmuch as a very detailed discussion of personal hygiene will be found in another chapter, no treatment of the subject is necessary here.

2. **Nature Study.**—Nature study should begin with some observation of the plant and animal life in the immediate environment of the child. From this study we should go into the problems of *agriculture*, as they come naturally out of the yard, garden, and field; the study of soils; the care and feeding of animals; the elementary phases of farm management; the care of poultry; and a considerable study of plants, including shrubs, trees, vegetables, cereals, etc., as they are grown in the neighborhood.

3. **Geography.**—Geography has been too exclusively a matter of memorizing names, places, and facts, very largely unrelated to social values of any kind. The great need of Geography is that it

should be *humanized*. In Dewey's *Moral Principles in Education*¹ we have a statement which expresses very definitely the author's thinking concerning the matter:

"The beginning must be social geography, the frank recognition of the earth as the home of men acting in relations to one another. I mean by this that the essence of any geographical fact is the consciousness of two persons, or two groups of persons, who are at once separated and connected by their physical environment, and that the interest is in seeing how these people are at once kept apart and brought together in their actions by the instrumentality of the physical environment. The ultimate significance of lake, river, mountain, and plain is not physical but social; it is the part which it plays in modifying and directing human relationships."

In German elementary schools history is most definitely correlated with geography, much to the advantage of the geography instruction. Geography should be made much more an out-of-door subject and much less a book subject. Field trips, well planned, are of more importance than has been supposed. Perhaps the finest aid to geography in the world is utilized in Switzerland, where the children and the teacher, annually, go on long field trips, extending over several days, partly at the expense of the state. To be sure, such trips can be made more profitable in Switzerland than in some of our states in America, for the reason that in Switzerland all possible land and water forms and all possible occupations can be observed without going any great distances.

In the humanizing process we should endeavor to gain a much more intimate knowledge of people and

¹ Dewey: *Moral Principles in Education*, pp. 34 and 35.

of their work, as they contribute to our welfare. Recently the author went into a third-grade class in nature study or geography and asked this question: "Can you tell how you received the clothing you now wear?" Immediately a list was made of the more important articles of clothing worn by the children. Then followed the discussion of the manner of securing each of the raw products, from its original source of supply and carrying them through the various stages of growth, cultivation, gathering or harvesting, shipping, and manufacturing, with the bringing of the finished product to the local store. In these various processes it was discovered that manufacturers, railroad men, miners, mechanics, factory hands, draymen, merchants, salesmen, etc., had all been at work to make it possible for us to own shoes, coats, caps, shirts, underwear, stockings, etc. This is a type study, and the very same sort of question might be raised concerning the food supply for a day or a year; the material to build a house or barn; the articles to furnish a home, or to construct a bridge or railroad.

In such a study we will need maps, globes, charts, etc., but the experiences of the children must be used in large measure if such a study is to be significant. If children have not had enough first-hand experience, we should go out with them and help them to get that experience under the best conditions possible. It will be observed that this is primarily an inductive method, rather than a deductive method of instruction. Too many texts in geography, even of the present, begin with *the world, land and water forms, etc.*, in the old-fashioned deductive way.

HISTORY.

There is very good ground for considering History under the Expression group, but the author here gives it its conventional place in co-ordination with that and the other groups.

As in geography, the subject matter in history for the elementary schools has been too largely made up of names of places, statements of facts, dates concerning the doings of generals, presidents, etc. This is entirely inadequate if the subject matter of history is to have its effect upon moral character and citizenship. Inasmuch as so large a number of children go through life with no other training than that of the elementary school,—in fact, more than half of our population does so,—it would be much wiser to have a child get a few of the main steps in the progress of the race as it has come from primitive man up to modern life. I cannot refrain from quoting Dewey ¹ again, somewhat at length:

“One reason historical teaching is usually not more effective is that the student is set to acquire information in such a way that no epochs or factors stand out in his mind as typical: everything is reduced to the same dead level. The way to secure the necessary perspective is to treat the past as if it were a projected present with some of its elements enlarged.

The principle of contrast is as important as that of similarity. Because the present life is so close to us, touching us at every point, we cannot get away from it to see it as it really is. Nothing stands out clearly or sharply as characteristic. In the study of past periods, attention necessarily attaches itself to striking differences. Thus the child gets a locus of imagination, through which he can remove himself from the pressure of present surrounding circumstances and define them.

¹ Dewey: *Moral Principles in Education*, pp. 37 and 40.

History is equally available in teaching the *methods* of social progress. It is commonly stated that history must be studied from the standpoint of cause and effect. The truth of this statement depends upon its interpretation. Social life is so complex and the various parts of it are so organically related to one another and to the natural environment, that it is impossible to say that this or that thing is the cause of some other particular thing. But the study of history can reveal the main instruments in the discoveries, inventions, new modes of life, etc., which have initiated the great epochs of social advance; and it can present to the child types of the main lines of social progress, and can set before him what have been the chief difficulties and obstructions in the way of progress. Once more this can be done only in so far as it is recognized that social forces in themselves are always the same,—that the same kind of influences were at work one hundred and one thousand years ago that are now working,—and that particular historical epochs afford illustration of the way in which the fundamental forces work.

Everything depends, then, upon history being treated from a social standpoint; as manifesting the agencies which have influenced social development and as presenting the typical institutions in which social life has expressed itself. The culture-epoch theory, while working in the right direction, has failed to recognize the importance of treating past periods with relation to the present,—as affording insight into the representative factors of its structure; it has treated these periods too much as if they had some meaning or value in themselves. The way in which the biographical method is handled illustrates the same point. It is often treated in such a way as to exclude from the child's consciousness (or at least not sufficiently to emphasize) the social forces and principles involved in the association of the masses of men. It is quite true that the child is easily interested in history from the biographical standpoint; but unless "the hero" is treated in relation to the community life behind him that he sums up and directs, there is danger that history will reduce itself to a mere exciting story. Then moral instruction reduces itself to drawing certain lessons from the life of the particular personalities concerned, instead

of widening and deepening the child's imagination of social relations, ideals, and means."

Here you have very little suggestion concerning wars, military achievements, or the doings of kings and courts.

The Study of History in the Elementary School. Report to the American Historical Association by the Committee of Eight is a most excellent study of the method and subject matter which should be employed for the elementary school. No elementary teacher should undertake to teach the subject of history without a knowledge of this report. In this report all the material is outlined by grades and subjects, in a most comprehensive way.

Whatever the source of the material used, there should be presented to the children a brief survey which will include a view of primitive man trying to work out the simple problems of the race, in such fashion as the Egyptian, the Chinese, and the American Indian have toiled. We should present the Hebrew who, through long centuries of tribulation and disaster, preserved the fundamentals of religion and morality; the Greek, striving to fix important standards, in language, literature philosophy, and art; the Roman, working through the centuries to establish laws and build institutions for human progress; and, finally, the Christian, with his endeavor to work out political, social, economic, and religious freedom, using the state as a means to secure this result.

It does not seem that any intensive study of the problems of United States history, however interesting and important these problems may be, will furnish any adequate comprehension of the issues

involved in the progress of man from savagery and barbarism up to humanism and civilization. Maps, pictures, stories, references, and dramatization should all be utilized in such a way as to make the problems of history as real as possible. In another place the author referred to the dramatization of the great Constitutional Convention, which is typical of what can be done to vitalize the teaching of history.

ARITHMETIC.

In a very large measure the problems of Arithmetic grow out of the nature subjects, but the author has thought it best to place it in co-ordination with the groups, including the nature sciences.

Some form of arithmetic instruction has usually been required in each of the eight grades, and sometimes two periods per day have been required when oral or mental arithmetic has been accorded a separate period. To be sure, we know now that there should be no definite separation of oral from written arithmetic, for the reason that written arithmetic is used only in connection with problems which are too elaborate for oral work. It has not been unusual for arithmetic to consume as much time as any other two subjects of the elementary curriculum, yet it is not unusual for eighth-grade children not to be able to perform the fundamental processes with speed and accuracy.

The chief reason for arithmetic's consuming so much of the time of the elementary school has been the very common belief concerning its value for mental training or discipline, usually stated in language such as this: It enables one to think

logically and accurately. (For a discussion of this matter see the chapter on "Psychological Factors Involved in the Processes of Education," under the topic of "Formal Discipline.") Then, too, the utilitarian values have been urged with a great degree of earnestness.

What are the positive values of the study of this subject? To learn how to manage a number of objects and quantities of things; to be able to answer the questions of "How much?" and "How many?" These are the more important considerations in dealing with arithmetical problems. We should bear in mind that there are only two things which can be done with numbers or quantities; namely, they may be increased or decreased, addition and multiplication being the processes by which we increase numbers or quantities, and subtraction and division the processes by which we decrease them.

What shall we teach children in arithmetic? This question has been answered by Professor David Eugene Smith,¹ who is probably the greatest authority in America on the teaching of mathematics:

"For the ordinary purposes of non-technical daily life we need little of pure arithmetic beyond (1) counting, the knowledge of numbers, and their representation to billions (the English thousand millions), (2) addition and multiplication of integers, of decimal fractions with not more than three decimal places, and of simple common fractions, (3) subtraction of integers and decimal fractions, and (4) a little of division. Of applied arithmetic we need to know (1) a few tables of denominate numbers, (2) the simpler problems in reduction of such numbers, as from pounds to ounces, (3) a slight amount concerning addition and multiplication of such numbers, (4) some simple

¹ Smith: *The Teaching of Elementary Mathematics*, p. 21.

numerical geometry, including the mensuration of rectangles and parallelopipeds, and (5) enough of percentage to compute a commercial discount and the simple interest on a note."

He also asks¹ what we shall expect of children in the way of utilities of arithmetic, and then proceeds to answer the question:

"(1) A good working knowledge of the fundamental processes set forth on p. 21 [stated above]; (2) accuracy and reasonable rapidity, . . . and (3) a knowledge of the ordinary problems of daily life. Were arithmetic taught for the utilities alone, all this could be accomplished in about a third of the time now given to the subject."

This raises one more important question: What and how much shall we eliminate from the ordinary arithmetic course of study for the elementary grades? It is difficult to eliminate time-honored subjects from the arithmetic, for the reason that the older people of the community, who may have studied these subjects, have a positive prejudice in favor of them and because of their supposed efficacy in giving some sort of mental discipline.

The following may be mentioned as having little value for the ordinary student, unless the doctrine of discipline, in some form or other, is accepted, or unless we try to train the students for every possible situation which may arise in a lifetime; all but very simple partial payments; cube root; troy weight; equation of payments; alligation; all but very simple cases of stocks and bonds; compound proportion; a great deal of the technical material concerning compound numbers. (It seems too bad that we must continue the "hodge-podge" of compound

¹ Smith: *The Teaching of Elementary Mathematics*, p. 23.

numbers as we have them in American usage. The metric system is so much better in every way.) We do not need to learn much about bank discount, for even the banker uses a sheepskin-covered book, with tables, to compute the various bank discounts. We need to leave out all of those complex problems in common and decimal fractions which are never used either by children or by adults. We should leave out much of the material in connection with simple, compound, and annual interest, for in practice we use only the simplest aspects of these.

Doubtless the reader is beginning to wonder if the author wants any arithmetic left. Yes, much, but it should be arithmetic which comes out of life situations rather than out of books. We should seek problems as they are found in real life, in the teaching of agriculture, manual training, and household arts, and, for small children, the games should not be omitted. In the matter of methods again, it is worthy of note that *induction* and not *deduction* should be used. Too many of our textbooks at present commence with definitions and rules, instead of providing direct experiences so that the rules and definitions may be reached as general principles. Some laboratory equipment is almost indispensable for instruction in primary arithmetic. Among the more important things may be mentioned the following:

- A set of scales.
- 100 inch-cubes.
- A set of liquid measures.
- A set of dry measures.
- Some rulers.
- A clock dial.
- Some real or toy money.

Leaving out the real money, the total expense should not be more than seven or eight dollars for such an equipment.

MANUAL ARTS.

The manual arts have not been very well organized for rural schools, or even for village schools, but many city systems now have very good equipments and are doing fairly good work. However, much remains to be done in connection with the organization of the work. Undoubtedly there is much more need for training in the manual arts now than in the preceding generation, because the factory has taken over so many of the tasks which were formerly done in the home. The case seems somewhat hopeless in connection with rural life and the one-room rural school, on account of the expense of the equipment. Moreover, there is usually no suitable room and no trained teacher to do the work. Here again appears an argument for the consolidated school.

The manual arts provide opportunity for much more motor activity than do many of the other subjects in the curriculum. Such work allows the motor types of children such tasks as will induce them to remain in school longer. It is a means of expression, and definitely appeals to the constructive instincts of children; it affords an opportunity for the correlation of body and mind; it is a necessary primary training for many important industries; it gives an appreciation of the value of work; it affords a chance to learn the worth of co-operation; and it has certain moral values in requiring care and accuracy to secure the best results.

The course of study should include some of the

primary handwork, such as paper-cutting and pasting, weaving, sewing, book-making, clay-modeling, and elementary wood-working. In the grammar grades advanced wood-working and metal-working should be offered. The equipment for the various subjects in handwork is not very costly. A complete equipment for wood-working and metal-working is entirely too expensive for a one-room school, though it might easily be secured for a consolidated district.

HOUSEHOLD ARTS.

In many of the states not much has been accomplished by rural schools in household arts, on account of the lack of equipment and a certain prejudice against such instruction. In some of the states, in the towns and cities a great deal has been done, in so far as the introduction of the work is concerned, but much remains to be accomplished in its organization.

Among the more important values which have been urged for the introduction of these arts in the elementary course of study may be mentioned the following: (1) It helps to make efficient homes, for, as has been pointed out by many writers and lecturers recently, we have applied our knowledge of science to all the other problems of life with greater directness and effectiveness than we have to those of the household. Unquestionably, it is true that we have utilized certain scientific facts far better on the farm, out-of-doors, than we have applied those same principles in the household. (2) It gives dignity to the work of the house. So long as household tasks are considered suitable for servants only, so long will they be shirked and slighted, but if they are

studied as school tasks they at once take on importance and dignity. (3) This work gives large room for the gratification of motor activity and the constructive instincts. Ultimately, more than ninety per cent. of all the women become household managers and home-makers and they need specific training for this work. A woman should be trained in the knowledge of values of clothing, food, furniture, etc., because she is very generally the purchasing agent for the home.

The course of study will include *Good Housing*, for this is important in the matter of both comfort and sanitation. *The Value of Food* will also be studied, for we know very little about the selection and preparation of suitable foods for children and adults, much less how to secure the values of these foods by the various methods of cooking. Indeed, it would appear that we have worked out much more carefully well-balanced rations for pigs and cows than we have for human beings. *Clothing* is also an important topic for its selection, and the consideration of its values, kinds, style, fabrics, etc., is an important matter for the household. *Home Nursing* should also be taught, because some members of the household ordinarily become nurses in case of sickness. This is exceedingly important in rural life, where the trained nurse cannot possibly be obtained. We know now the value of nursing as compared with "dosing" with medicines.

We have no solution, as yet, of the domestic service problem, and no solution can come while our knowledge of the subject remains in the present unorganized state.

In the matter of equipment, the courses for cooking and machine-sewing are such as to make it im-

possible to teach these subjects to any extent in the ordinary rural school, but for the other subjects no very expensive equipment is necessary.

Summary.—Much of the discussion of this chapter tends to show the difficulties in the rural school situation, so long as the one-room school is a unit for work. The so-called *special* subjects of music, manual training, household arts, etc., are nearly impossible in any well-organized form in such a condition. Yet we must recognize the fact that the demands for instruction in these subjects are being made persistently upon the modern school, and we must bring about such conditions, very soon, as will enable us to meet these requirements.

PROBLEMS FOR STUDY.

1. Should Partial Payments be left out of elementary Arithmetic? Why?
2. Try to organize a course of study in the nature subjects on the theory of the author.
3. Make a clear argument for the introduction of Manual Arts in rural schools.
4. Why should Household Arts be taught in all elementary schools?
5. Tell how to measure the value of History as an elementary school subject.
6. What phases of Manual Arts can be introduced in rural schools with the least expense and technical training of the teacher?
7. What problems in Household Arts can be solved in almost any rural school?
8. Discuss the values of laboratory equipment for the teaching of Arithmetic.

9. Select material and make a plan for the dramatization of the First Continental Congress and of the Inauguration of George Washington.
10. What is meant by the teaching of History from the "social standpoint"?
11. How may instruction in History be made to contribute to moral growth?
12. Should U. S. History and Civics be correlated in the grades? Give the more important arguments in the case.
13. State the values of teaching General History in the grades before United States History is taught.
14. How do you value the ability of the teacher to tell stories in Reading and History?

READINGS.

Betts and Hall: *Better Rural Schools*, Part II.

Charters: *Methods of Teaching*, Chap. II.-IV.

Charters: *Teaching the Common Branches*.

Cubberley: *Rural Life and Education*, Chap. XI.

Dewey: *The Child and the Curriculum*.

Talbot and Breckenridge: *The Modern Household*.

CHAPTER XVI.

SCHOOL DISCIPLINE.

PRESENT-DAY treatises on school discipline and school administration are largely based on pathology; the whole scheme of administration has in view the care of "bad" children. All of this must be changed for the welfare of society. School discipline should be one of the constructive forces to secure right ideals and proper social habits. We must come to this viewpoint in the interest of democracy, however difficult it may be, for we are trying to send into society boys and girls with such social habits as may operate at once in the interest of social welfare.

Forms of Discipline.—The current forms of school discipline may be said to fall into the following classes: 1. the absolute monarchy; 2. the aristocracy or republic; 3. the democracy. The monarchical type was transplanted to our soil from European countries in the shape of the old-fashioned school-master, who still exists in some districts. He was the monarch of all he surveyed. The children thought he was responsible for the government of the school; he thought so himself and so did the community. It is needless to remark that such a form of school administration furnished virtually no training for democracy, for the reason that children had no opportunity to acquire habits of self-control or value courses of action.

The aristocratic type (it may be called republican in

some respects) is one in which the very good children of the school acquiesce in the rules which are laid down for the conduct of the school, and, indeed, may have some part in their formation. But there are always many children who do not feel the values involved in the pre-established rules and in partial self-government and are not willing to live under them without much coercion.

The efforts to meet the spirit of such pupils as these through student government in so many places in this country are attempts to secure democracy through the school organization. So far these experiments have been more or less unsuccessful. But the experimentation is in the right direction, because we are training people in this country to control themselves in group relationships; and it should be the function of the school to furnish the maximum amount of training of this kind possible during the school period. We should remember none the less that children are largely subject to impulsive action and that it is necessary for the teacher, and others, to furnish suggestion and guidance in the earlier stages of any form of pupil government. The difficulty has been to secure teachers with enough personality and wisdom to set the right standards.

The Aims of Discipline. — The aims of discipline should be fundamentally the same as those for the school as a whole, for the reason that discipline is merely one of the factors in educating and training the child. Recently McMurry ¹ pointed out, from a constructive point of view, the aims of the school. He suggested that we measure the efficiency of the school by the motives and purposes which are formed

¹ McMurry: *Elementary School Standards*, Chap. III.

by it; by the power acquired to measure the values of life properly; by the organization of systems of its ideas; and finally by the amount of initiative acquired by the child.

Perhaps it is true that now, as never before in the history of the race, we are inquiring into the purposes and motives of individual and social organizations. We are trying to discover the specific and general values of subject matter. We are endeavoring to organize all kinds of facts and ideas into workable relationship. We are testing the values of these facts. It has been said sometimes that the difference between an educated man and an uneducated one is largely a matter of the organization and the valuation of experiences and facts. Society has always put a high value on initiative, but it seems to me that we are paying and are willing to pay still greater premiums for the right sort of initiative—initiative which has both historical background and present-day social perspective. There are three special problems to be kept in mind in connection with the aims of school discipline.

1. School discipline should always be such as to conserve those traits of character which may be turned to the good of the individual and ultimately to the advantage of society. In the old days it was a crime for students to want to do special things in the schoolroom, but we have grown wise enough nowadays to make special assignments in order to secure individual development, because in this way we help to assure the progress of society.

2. The discipline of the school should be administered in such a way as to recognize and secure the welfare of the school as a group. Many activities of individuals or members of groups may not be

intrinsically wrong or bad, but these activities cannot be permitted indiscriminately, because of the group situation. Getting a drink of water, going to the dictionary or library, leaving the room, whispering to a neighbor, or even studying aloud are not in themselves bad things; but the school must forbid them except under certain general rules, for the reason that any one of them if attempted by all members of the group at one time would destroy the school as a working group. It is not difficult to make a group of school children understand this if the teacher has a fair amount of common sense and wisdom. Certainly, these things are not offences against the teacher as a person, but against the group as a working unit. All school work furnishes some discipline, and children should understand why such is the fact.

3. School discipline and school conduct should not be considered as different from those of life outside, because very soon students go from the school to community activities of various kinds. It is fundamentally important for teachers, parents, and children that they realize that there cannot be two sets of habits and ideals; one for school and another for the home, the church, or the state. As was observed in another paragraph, the whole training should have as its end preparation for life itself.¹

The Teacher as a Factor. — One of the most important lessons for the teacher to learn in connection with discipline is that she must attain and preserve an impersonal attitude toward the problems of school discipline. This is not easy, but it is absolutely necessary for fairness and justice. It is important,

¹ Dewey: *Ethical Principles Underlying Education*. — 3rd Year Book National Herbartian Society.

also, if the teacher is to be saved from a case of "nerves" as a result of school difficulties.

The Child's Attitude.—It is also important for the teacher to understand that the child's attitude is extremely selfish and personal. This must be expected, whether we believe in the culture epoch, or the recapitulation theory, that each child must go through the race experience, and must therefore at times be a little savage or barbarian. Whatever our theory may be, it is certain that every youngster needs much humanizing and socializing. He must be made to appreciate work and responsibility and must be taught to value situations in terms of the time and the interest of the group.

The Parents' Attitude.—One of the queer experiences we still have is finding that many parents are unable to recognize the rights of the school over their children. They expect the school to tolerate many forms of conduct which are not allowed in the home. It is not an unusual thing for them to instruct their children at home that they must not tell or "tattle" about the conduct of other children, no matter how vicious that conduct may be. It seems to be the assumption of such parents that the teacher, "who of course is *all-wise*," can take care of such matters, and that they are of chief interest to her. Sometimes we still meet the belief that it is the teacher's *sole* responsibility to make the children behave. These attitudes are not as common as they once were, but much must yet be accomplished to bring about perfect co-operation between the teacher and the parents in the training of the child in right habits of conduct for society. In some measure, the present movement toward the organization of parent-teacher

associations will help to bring about a better co-operation between the home and the school.

Learning Team Work.—It is important in discipline to have children learn to do team work, or to co-operate. The tasks growing out of the school curriculum are in themselves too individualistic and breed selfishness and jealousy. It is often considered a crime for one child to help another in his school work. This may be observed in the assignment of problems in arithmetic, spelling lessons, language lessons, reading, and almost all other subjects of the elementary curriculum. It is common in a reading lesson for a whole class to be *set* to watch for mistakes made by the one doing oral reading; and it is counted a virtue to find some fault with the reader. This should be discouraged. We should emphasize team work in the school so as to cultivate the right school attitude. Some of the ways in which this may be done is found in dramatics, the making of school gardens, the various efforts toward pupil government, and the ordinary plays and games for the school recreations.

The author remembers very well two boys who started to fight while playing a game of baseball. They were punished by being sent out of the game, to the opposite corner of the schoolyard. They were left in these corners during the play periods for some days, to make sure that they understood the value of baseball as a game calling for team work and not for the settling of individual differences. The lesson was a very effective one; there was not another serious disturbance on the playground for a whole year following the occurrence.

The subjects of the curriculum should be handled in such a way as to offer more team-work situations

in addition to those mentioned above. Household arts and manual training afford fine opportunities for co-operation. Boys' and girls' clubs with various objects, the organization of school quartets or choruses, and in some ways the Y. M. C. A. and Y. W. C. A. offer opportunities for engaging in team work.

One of the characteristic beliefs of school children, commonly drilled into them by their parents, is that they must not tell on or "tattle" on their fellows. This is entirely an individual attitude and results at times in serious consequences. The author remembers the case of a small boy who was not willing to tell on a companion who threw a stone and injured a small girl very severely. He said he was not going to be a "tattler," but when he was asked what he would want done in the matter if the little girl had been his small sister, of whom he was very proud and to whom he was very devoted, he immediately responded, "That he would want to know all about it and it would not be good for the fellow who did it." As soon as he saw the matter in this light, he was willing to tell what he knew about it. Of course he still acted largely from selfish motives, but he did comprehend the problem as a group matter; and this is the essential factor in appreciating team work.

Pathological Cases.—The pathological cases commonly fall under three headings. One is thoughtlessness; through this the student indifferently commits some act against the school, or some member of it, not realizing the seriousness of the consequences involved. It has been estimated that more than seventy-five per cent of all pathological cases may be classified under this head. In a case of this kind, in general the only thing to be done is to have the pupil's attention called directly to the consequences

of his act. He will be found willing to do anything he can to make everything right again; and that is about all that should be asked of him. To be sure, in some serious cases it may be necessary to take precautions to prevent the recurrence of these acts by himself or others.

A second group of acts may come under the heading of "poor correlations." By this we mean that the student does not see that a bad act has anything to do with the school in any way. He may not think of school jurisdiction at all, or he may consciously attempt to put himself outside it before acting. The author remembers a case in which a boy ran home after school and then came out on the street to make a disturbance with the school children passing, arguing that the school really had no control over him, since he had been home. It is common for students who are tardy or absent from school to urge the same reasons. Such students must be made to see that these offences, after all, do retard the work of the school and ultimately hinder its efficiency. A large per cent of them can be made to see this and will conform to the rules necessary for good school work.

A third group embraces examples of wilful disturbances. Such cases in organized community life are reducing themselves to the minimum. In most communities probably not five per cent of the cases in school pathology could be classed under this head. The old notion that it is a form of heroism purposely to cause the teacher or the school some trouble is rapidly passing out. But in some communities there are some parents and some misguided children who are willing to make trouble on any grounds.

Sometimes pupils are unruly at school because

they have been mistreated at home and come to school in such a bad humor as to defy the regulations of the school. The author remembers a case of a boy who came to school and made a disturbance in his schoolroom at once. On being questioned, he said that his father had whipped him before he started to school and he was angry, because he did not deserve the punishment. Sometimes school children will destroy school property wilfully in order to make trouble for the teacher. I knew a schoolboy not long ago who threw a large stone through a window and said he did it because he knew the teacher would have trouble about it.

Punishments.—These extreme cases make it necessary for us to provide punishments for the offenders. It has been necessary in all ages to have society provide suitable restrictions and punishments for its anti-social members. We should remember that in modern society the chief aim is to reform the offender, though of course we must protect society against the recurrence of the same offence by the same individual, or others holding the same attitude. In order to work any reformation in the offender he must be led to see the error of his action and, as far as possible, should come to the conclusion that such an act is undesirable on his part, or should be sorry for it. Commonly he will be ready to make such reparation as he can. A wise teacher will be able to settle most cases with these points in mind. There will still remain, however, some few cases which call for special treatment or punishment.

Forms of Punishment.—A good deal has been made of the doctrine of natural punishment—that is, the punishment resulting from the natural consequences of the act—as advocated by Rousseau, Spencer, and

others in the history of school discipline. It is desirable to keep in mind that natural punishment is a factor in the settlement of pathological cases, but it will not do to rely on it in all contingencies, because its results are often too long delayed and involve too many people. A punishment to be effective must always be certain and just; and sometimes it is desirable that it should be administered swiftly. A brief discussion of some of the more important forms of punishment may not be out of place.

Conferences.—A direct conference of the teacher and the pupil with the parent present may be used with good results in many situations.

Public Reproof.—It is possible sometimes to bring a student to realize the gravity of his offence by giving a public reproof, but this should be done with great discretion.

Isolation.—Complete isolation of the offender from other members of the school and from school activities may be used at times with good success.

Keeping In.—"Keeping in" from play or after school has been used or "misused" for more school offences than any other form of punishment. This device should not be employed except in rare cases, for, whatever the offence may be, children need their recreation.

Corporal Punishment.—Corporal punishment has been discussed with much earnestness and in many forums in recent years. The consensus of opinion is, undoubtedly, that it should be used in extreme cases only, with children who cannot be controlled in any other way. Great caution should be observed in its administration. If possible, the consent of the parents should be obtained before it is given; it is also desirable that the physical condition of the child

should be ascertained before the punishment is administered, and in all cases the punishment should be witnessed by some other teacher or person, and a record made to cover the whole case. If parents are unwilling to have their children receive this punishment, generally it is best not to use it.

Demerits.—Numerous demerit and deportment schemes have been devised for school discipline, but on the whole they are artificial and exceedingly difficult to administer.

Loss of Privileges.—The loss of some of the school privileges may be made an effective means of control, because it is a method in accord with the procedure of society itself. In the home and society, it is common to have privileges taken away from us when we do not know how to use them properly.

Expert Advice.—In the ward schools it is not unusual for the room teacher to call in the principal to offer expert advice in aggravated breaches of conduct; or the county superintendent may be called in for special cases in the rural school. This may be necessary or advisable for immature teachers, who do need, at times, expert advice. But on the whole the case should be settled by the room teacher, if possible, for the reason that the school and community usually consider the teacher a partial failure if she must call some one else in to solve her problems.

Suspension.—Suspension is an extreme form of loss of school privileges. Undoubtedly it is necessary at times, not ordinarily, that the pupil and the parents understand the gravity of the offence, but it should be used with great caution.

Expulsion.—This is the most extreme form of punishment which can be administered. The right to use it is not usually granted to the teacher, but del-

egated to the school board. In the administration of it, the teacher is required to refer the case to the board for action. It should never be employed except for the most flagrant violation of some one or more of the school's fundamental interests.

PROBLEMS FOR STUDY.

1. How does the author classify school discipline? Give several examples illustrating each kind. Under which heading does your school fall?
2. What success has pupil government had in this country? What are its chief problems?
3. What is the difference between self-government and pupil government?
4. What constitutes good school discipline?
5. What is the difference between an educated and an uneducated individual?
6. What three special problems are to be kept in mind with reference to school discipline? Explain each fully.
7. Can a person have one set of habits and ideals for school and a different set for life outside of the school? Explain.
8. What is meant by the culture epoch theory?
9. In what sense does the teacher stand in *loco parentis*?
10. What are some organizations which make school discipline more effective? How is this accomplished?
11. Tell about some case of gross insubordination you have observed. How would you have handled it?
12. Enumerate as many reasons as you can why children are unruly at school.
13. Why does the school need to provide forms of school discipline?

14. What are the essentials of effective school punishment?
15. Name several practices in school punishments which cannot be justified in the light of the best educational thought of the day.
16. Is it wise for the teacher to use her personal influence to secure good conduct? Give good reasons.
17. In any punishment is it desirable to undertake to break the will of the child?
18. What are the dangers and values of the "gang" instinct in boys? The "chum" instinct in girls?
19. How would you manage cases of fighting?
20. When is tattling desirable?
21. How many kinds of lying do children do? What should the school do about it? (See Morehouse: *The Discipline of the School*, pp. 141-144.)
22. Tell how to manage cases of stealing; taking into account the principles set forth in this chapter; cheating; profanity; vandalism.

READINGS.

Bagley: *School Discipline*.

Morehouse: *The Discipline of the School*.

CHAPTER XVII.

PERSONAL HYGIENE.

Interest in Physical Welfare.—One of the most significant aspects of the present conservation movement is to be found in our increased attention to the problems of human welfare, though it is doubtful if we are as far along in our thinking in this matter as we are in some others. It is a hopeful sign, however, that we are taking so much interest in physical education. We are just emerging from the antiquated theological notion that the body is the cause of almost all our physical and moral limitations and for that reason should be kept in subjection. It is not desirable that we deify the human body, as the Greeks did, but we do need to recognize its relation to the spiritual nature and, with this in mind, to prepare for its important function. Moreover, we need to be keenly alive to the fact that the body must be a well-ordered machine if it is to bear up under the strain of modern society and do its share of the world's work. We may pity bodily weakness; society may provide means to alleviate human suffering; but we do not admire weakness, and our craving for health and physical efficiency is one of the most fundamental of our human wants.

Economic Losses from Preventable Diseases.—There are 100,000 deaths annually in the United States caused by *tuberculosis*, the "great white plague," and about 1,000,000 people have the disease at present. On the economic side alone this means an

annual loss of \$500,000,000. Medical science has not yet found a specific cure for tuberculosis, after the disease has gotten past the incipient stages, but we know very well that it may be cured if taken in its beginning; and we know that right habits of living and proper sanitation do much to prevent it in the case of individuals who show any predisposition towards it. The school must be the organized agency to disseminate the information about this dreaded disease, and, ultimately, this should be the means of stamping it out. The school-child should know how tuberculosis is spread, and how to live in order to build up a strong physical resistance against it. *Typhoid* fever costs us \$200,000,000 annually, besides a loss of more than 25,000 lives. *Malaria* costs another \$100,000,000 annually.

Here we have the huge sum, arising from three diseases, which are practically preventable, of \$800,000,000. This sum is greater than the total amount spent on all forms of education in this country.

The *hook-worm disease*, it has been roughly estimated, has more than 2,000,000 victims in the United States at the present time. This disease is restricted largely to the South, and in the main to working people, though no class is exempt. The economic loss from this disease has not been computed accurately, but it amounts to an enormous sum. If it halved the ordinary earning capacity of the 2,000,000 people it would mean an annual loss of from two to three hundred million dollars.

The Use of Alcohol and Drugs.—There is no way to measure the great loss occasioned by the use of morphine, cocaine, tobacco, and alcohol. Undoubtedly we are losing millions of dollars annually from indulgence in these habits.

A well-known college professor has estimated the total annual economic loss from bad habits, premature deaths, and preventable diseases at not less than two billion dollars,—a sum greater than our national debt. This of course is only the economic aspect of the problem, as we have no method of measuring the disappointment, suffering and sorrow incident to these conditions. In 1912, in the United States alone, there were 400,000 deaths of children before they had reached the age of one year, and, that same year, 65,000 children were born blind. In nearly all cases the blindness was due to either the ignorance or the moral turpitude of the parents. Verily, our greatest waste is that of humanity. Our ignorance and negligence in caring for human life, and especially the human infant, is a national disgrace and shame. We know much more about the scientific care of fine cattle, hogs, and sheep than we do about the care of human beings.

Defects Among School Children.—Some authorities have estimated that at least fourteen out of every twenty school children have one or more physical defects. This seems a large proportion, but a vast amount of data has been accumulated which tends to show that it is not at variance with the fact. This being the case, our problem is definite. We must begin with the school child at once to try to insure his more healthy development. We may not be able to do much for small children in the home for some time to come, but it is evident that we must at once take up the burden of securing health for school children. We need to provide for the normal growth of the child and to protect him against the contagious diseases incident to the school and school conditions. It seems self-evident that the child

O F L C T G

20 ft. or 6 m.

A P E O R F D N

15 ft. or 4.5 m.

N P R T V Z B D F H K O

If a child cannot read the thirty-foot line with either eye, he should be referred to an oculist

SNELLEN TEST SHEET,

70 ft. or 21 m.

D I N

50 ft. or 15 m.

P T E R

40 ft. or 12 m.

F Z B D E

30 ft. or 9 m.

O F L C T G

20 ft. or 6 m.

A P E O R F D Z

15 ft. or 4.5 m.

N P R T V Z B D F H K O

If a child cannot read the thirty-foot line with either eye, he should be referred to an oculist

should be kept in health and normal condition in order that he may do effectively the maximum amount of school work during the school period; moreover, that he may come to maturity in full vigor of manhood.

Hygiene of Vision.—It has been said that we have many more eye defects in modern civilization than in the past, because we read more. This may be true. In any event, our continued use of it at short distances in artificial light is largely responsible for many eye troubles. The more common eye defects are hyperopia (far-sightedness), myopia (near-sightedness), astigmatism, cross-eye, and eye-strain.

Tests have shown that from ten to forty per cent of school children have eye defects. Probably half of them are not very serious, but at least fifteen out of every one hundred children have such eye defects as should receive immediate attention by a trained oculist. The Snellen test card may be used successfully by any teacher to determine whether a child is short-sighted, far-sighted, or has astigmatism. After the test has been made the child, if a defect is found, should be required to go to a good oculist and have the necessary correction made.

Parents, ordinarily, do not recognize the importance of caring for the child's eyes; indeed, they do not know much about it. The author remembers a case where a child could not do its work well. An examination showed that the child was totally blind in one eye. The room teacher did not know about it and the parents had not the slightest suspicion that anything was wrong. A copy of the Snellen test is provided here, so that it may be taken out and attached to the wall for use. The sheet is a

duplicate of the one published by Rapeer in *Educational Hygiene*.

Hygiene of the Ear.—School children do not have as many ear defects as eye defects, yet ten to twenty children out of every one hundred have, to some extent, defective hearing. The test for defective hearing is a simple one, the ordinary watch or whisper method being used. The whisper test requires a room twenty-five or thirty feet long. The lowest whisper should be understood at any point in this room, by persons of normal hearing. Each ear should be tested separately. As soon as defects are discovered, parents should be advised to take the child to a competent specialist.

Hygiene of the Teeth.—Most parents have not thought it worth while to give the teeth of their children much attention. Toothache and decaying teeth are usually considered necessary evils of childhood. Probably more than seventy-five per cent of our children suffer from diseased and decayed teeth. The suffering is bad enough, but when we have called to our attention the great danger from decaying teeth we realize the vital importance of caring for them. The decaying matter from the teeth passes into the stomach and intestines and is absorbed into the system. The decayed tooth may become a breeding-place for typhoid, diphtheria, and other diseases. It often prevents the proper mastication of food, and no child can do its work with any degree of satisfaction or efficiency when it has the toothache.

It ought not to be the teacher's business to look after this matter. Still, it is a matter of education to provide for the health of childhood, so the teacher must teach mouth hygiene and advise children and

parents when the teeth seriously need attention. In the cities and towns, it will not be long before every child will have its teeth examined by a competent school dentist, once or twice a year.

Hygiene of the Nose.—The most important school problems in personal hygiene are connected with the nose and throat. We know now that measles, mumps, whooping-cough, scarlet fever, typhoid, diphtheria, pneumonia, influenza, and the old-fashioned cold get into our system, in almost all cases, through the nasal passages and the throat. Therefore, it is important that the child be guarded as to these. Great care should be taken to prevent mouth-breathing, and to keep the tonsils healthy and thus guard against adenoids and catarrh. Children should be taught the value of correct habits of breathing and urged to get all the fresh air possible. In all cases of suspected disease of the respiratory system, the child should be sent home at once and not allowed to return to school without a physician's certificate.

Nervousness.—The strenuousness of modern life produces much nervousness and malnutrition, and so is responsible for a great many nervous defects in children. Restlessness, hysteria, and even Saint Vitus's dance, are not uncommon things among school children. While it is not possible for the school to care for all these conditions, yet it can be an important aid in starting these children in the right habits of living.

Speech Defects.—The two most common defects are stuttering and lisping. Unless the teacher has given some definite attention to these two defects she will probably not be able to cure them; indeed, they are problems of the specialist rather than the

ordinary teacher. But, at all events, neither the teacher nor the school children should make fun of children who stutter or lisp. Habits of speaking slowly, and relief from any sort of nervous tension or strain during vocalization may help somewhat in mitigating the defects.

Normal Growth.—In the case of school hygiene, as in the case of school discipline, we are apt to spend almost all of our time on its pathological aspects. We need to recognize clearly the positive aspects of the problem. So far we have given very little attention to the diet of children. They are fed in much the same way that are adults. No consideration has been given to the child's growth, and we are just beginning to recognize his need of fresh air. For a long time we thought a bad cold lurked in a draught of pure air. We know now that pure air is the greatest enemy of a bad cold. We are beginning to organize play for children, so that they may grow and be happy at the same time.

The school and society must be made to appreciate more clearly than they do now the fundamental value of right habits of living during the school period. The school must send us out good human machines, with fine lung capacity, good hearts, good digestion and good habits of assimilation. The school years are the child's habit-forming period; and if these habits be good they will constitute the largest individual and social asset of his later life. In the appendix to *Rural School Houses and Grounds* by Dresslar¹ there is given a health program for country children. In some respects it is a program for country children alone, but nearly all of the items

¹ Dresslar: *Rural School Houses and Grounds*, Bulletin No. 12, U. S. Bureau of Education, 1914.

apply with equal force to all children, whether they live in the country, the town, or city. Therefore, I am quoting the program in full, with the hope that it may fall into the hands of many thousands of teachers and, through them, become a creed for all children.

LEST I FORGET.

I believe that good health and a strong body are essential, and that the only real wealth is good health. In order that I may be strong and well, therefore, I will endeavor to observe the following rules of health.

1. I will keep my teeth clean by using my tooth-brush every day.
2. I will drink no coffee or tea before I am twenty years of age, and no sort of alcoholic stimulants at any time in my life, unless ordered to do so by a physician.
3. I will chew my food thoroughly.
4. I will sleep at least nine hours each night in well-ventilated rooms winter and summer, or in an open-air sleeping-porch.
5. I will bathe my whole body at least once a week and keep my face, hands, and nails clean.
6. I will strive daily to acquire a habit of self-control, habits of anger being not only wrong but unhealthful.
7. I will strive to help make my home as clean and sanitary as possible, especially to prevent contamination of the milk and drinking-water.
8. I will do all I can to prevent the development of flies about the house in which I live, since they carry the germs of typhoid fever and other diseases.
9. I will do all in my power to prevent mosquitoes from breeding in or about the house I live in. I will bury or destroy all old tin cans, barrels, or other vessels which catch and hold rain-water and offer a place for mosquitoes to breed. I will help to drain all stagnant pools near my home or put kerosene oil on them once every ten days during summer.
10. I will try hard to kill rats and mice about my home, since

they are both troublesome and dangerous, carrying, among other things, the bubonic plague, one of the most deadly of all diseases.

11. I will do all in my power to help secure sanitary toilets throughout the whole neighborhood.

12. I will strive to keep the back yard of my house as clean and tidy as a front yard should be kept.

13. I will take no patent medicine, and will do all I can to teach people that most of it is both useless and harmful.

14. I will keep my personal life clean and pure, for it is a duty I owe to myself and to all who live now and may live in the future.

15. I will take good care of my eyes, taking special pains not to strain them by reading at night or in bad light.

16. I will be careful about spitting, since disease is often spread in that way.

17. I will do all I can to help make our schoolhouse more attractive and to keep it clean and neat at all times.

18. I believe the best investment I can make for myself and my family is to invest in good health, a good education, and a clean, moral life.

19. I will strive with all my power to make country life more healthful, more enjoyable, and more beautiful. I believe life in the country is finer and better than life in any city.

PROBLEMS FOR STUDY.

1. Discuss the personal hygiene of the teacher.
2. Name the communicable diseases, giving early symptoms, and the precautions the school must observe.
3. What are the common ailments?
4. What is your community doing for the preservation of the health of school children?
5. How does school life affect the eyes?
6. What is the Snellen test for ascertaining defective vision?
7. What are the common symptoms of eye strain?

8. Explain the following methods for testing defective hearing: the watch test, the whisper test, the audiometer test.
9. Show the importance of good teeth to health.
10. What diseases affect the nose and throat?
11. How does nervousness affect school work?
12. What can the school do to prevent stuttering and lisping?
13. How does malnutrition affect school work?
14. Why do some cities undertake to feed school children?
15. Tell about the precautions necessary to prevent contagion in cases of tuberculosis.
16. What are the sources of infection in typhoid fever?
17. What precaution should be observed to prevent its communication to other members of the family or community?
18. Do you think the sleeping-porch is a fad? Give reasons.
19. Mention the important conditions necessary for a sanitary sleeping-room.
20. Describe the open-air school. What results are claimed for it?

READINGS.

Cornell: *The Health and Medical Inspection of School Children.*

Heck: *The Health of the School Child.* Bulletin No. 4, U. S. Bureau of Education, 1915.

Hoag & Terman: *Health Work in Schools.*

Gulick & Ayers: *Medical Inspection.*

Terman: *The Hygiene of the School Child.*

CHAPTER XVIII.

PLAY AND RECREATION.

THE author has had the privilege of spending a Fourth of July in Boston, in Chicago, in St. Louis, and in Kansas City. In each case the day was spent in a careful observation of the people as they were taking a holiday, on street cars, in the streets or yards, in museums, public parks, and baseball parks. As far as possible, all the forms of recreation and amusement were noted. It has been his privilege also to spend a number of Fourths of July in smaller towns, and several have been spent out in the country. From all these experiences has resulted the deep conviction that the American people have very little capacity to spend this great national holiday in a way to bring any considerable amount of real pleasure to themselves or their fellows.

Thousands of men, women, and children appeared more worn than if they had toiled at their ordinary work; and, worse still, many thousands of men and some women had no better means of enjoyment than to spend the day gambling, getting drunk, and even fighting. One universal fact was that all these people were trying to find suitable play or recreation. But the American people have not been educated to know what to do with their leisure, or, in other words, how to play. Space does not permit us to recount the history of the instinct of play, but even the casual student of history is aware of it as it has expressed itself in various forms in primitive

man; in classical Greek games; in the Roman amphitheater; by the medieval knight, or by the modern baseball or football player.

The Value of Play.—On the biological side, we recognize play as valuable in providing for growth and proper physical adjustments. We regard it also as prerequisite training for skill in certain vocations, and as a factor in moral development. In all ages it has been used to teach fair play, co-operation, and the value of clean living. First, we have the plays of the home; second, the school plays and games; third, the community plays and recreations.

Plays of the Home.—Some of the plays of the home may be carried on indoors. A wise mother can do much toward the proper direction of the indoor play of small children. Suitable toys should be selected for the children. Furthermore, story-telling and dramatization may be used by some member of the household who has sufficient time and ability to direct the work. Unquestionably, there are educational values in all three of these activities. However, it is probable that the outdoor recreations are more important than these. The children should have wagons, sleds, balls, bats, swings, play-houses, and pets. Every small boy should have the privilege of going hunting, fishing, and “fighting bumblebees” a few times; and both boys and girls should learn to skate and swim.

School Games and Recreations.—Story-telling and dramatization should be conducted as school indoor exercises. There are many kinds of clubs which the boys and girls form for both indoor and outdoor pleasure. These are commonly connected with the school. It is very important that the school should have a good playground equipment, including

swings, slides, horizontal bars, volley-ball equipment, basket-ball and baseball material.

Suitable Games.—1. **Volley Ball.** One of the very best games for rural schools, and town schools as well, is volley ball. The rules are exceedingly simple, the space required for the game is small, and it may be played by a large number of children. It is good exercise, as it requires swift movements, and the arms are stretched upward, giving the vital organs the right kind of exercise. It is a good game, too, for small children, because there is practically no danger of injury connected with the playing of it. So little is known about the game that I quote in full some directions given by Bancroft,¹ which will enable the ordinary teacher to put the game on without much trouble.

VOLLEY BALL.

2 to 30 players.

Playground; gymnasium.

This game consists in keeping a large ball in motion back and forth across a high net by striking it with the open palm. The ball must not be allowed to touch the floor.

Ground.—For large teams this game should be played on a ground measuring fifty feet long and twenty-five feet wide. For smaller teams a smaller ground will answer. A tennis net, or net two feet wide, preferably the latter, is stretched across the center of the ground, from side to side, extending one or two feet beyond the boundaries on either side. The upper edge should be from six feet six inches to seven feet six inches above the ground.

Players.—Any number of players up to thirty may play. The players are evenly divided into two parties, which scatter

¹ Jessie H. Bancroft: *Games for the Playground, Home, School, and Gymnasium*, pp. 413-416.

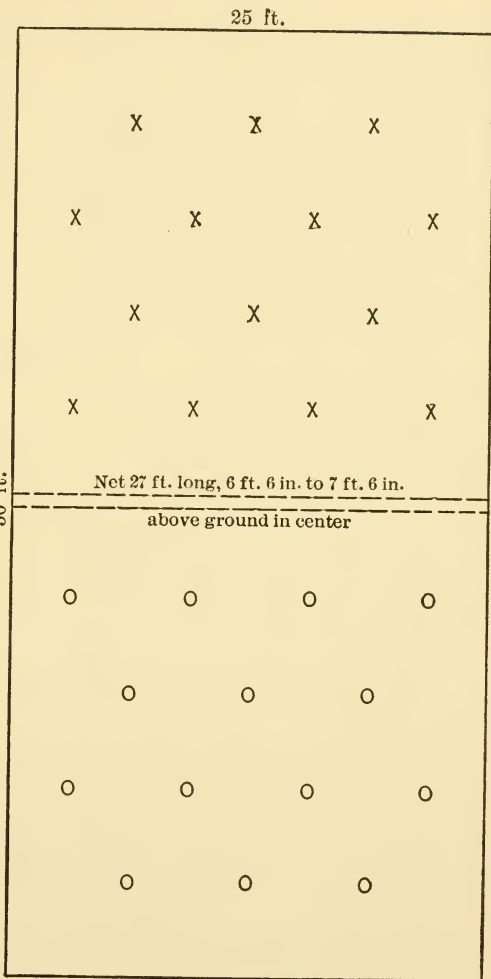
over their respective courts without special arrangement. There is a captain for each side. An umpire is desirable.

Object of the game.—The object of the game for each party is to keep the ball in lively play toward its opponents' court, as each party scores only on its opponents' failure to return the ball or keep it in the air.

The ball is put in play by being served by the party which is to score. The service of the ball, and with it the privilege of scoring, pass to

the opponents according to the rules described hereinafter.

Start: Rules for service.—The ball is put in play by being served by a member of one side, who should stand at the rear of his court with one foot on the rear boundary line and the other behind the line. From this position the ball is tossed upward



lightly from one hand and batted with the palm of the other hand toward or into the opponents' court.

Each server has two trials in which to send the ball into the opponents' court. The service being over a long course with a comparatively heavy ball, the following privileges are allowed: a served ball may be assisted on its course by any two other players on the server's side; no player so assisting the ball on the serve may strike it more than twice in succession, and the server under such circumstances may not strike it more than once; but should the ball then fail to land in the opponents' court, the server loses his second serve.

In serving, the ball must be batted at least ten feet by the server before being touched by any other player on his side.

No "dribbling" is allowed in serving.

A successful server continues serving until his side allows the ball to touch the floor, knocks it out of bounds, or fails to return it to the opponents. A server may also lose as follows:

If a returned ball hits a player on the server's side and bounces into the opponents' court, it is considered in play. If it hits such a player and does not bounce into the opponents' court, the server is out, losing his second trial.

If the ball hits the net during service, it is counted a dead ball and loses the server one of his trials.

If a served ball falls outside the opponents' court, the server loses his turn.

The players on a side take turns in serving.

Rules of play.—The ball must always be batted with the open palm. The ball should be returned by the opponents before it can strike the ground. Any number of players may strike the ball to send it across the net, but no player may strike more than twice in succession. Having struck the ball twice, a player may resume his play only after some other player has struck it. The ball is thus volleyed back and forth across the net until one side fails to return it or allows it to touch the floor, or until it goes out of bounds. A ball is put out of play by hitting the net in returning after a serve. A ball which bounds back into the court after striking any other object except the floor or ceiling is still in play. It is permissible to strike the ball with both hands at once (open palms).

If a player touches the net at any time, the ball is thereby out of play. Should this player be on the serving side, his side loses the ball and it goes to the opponents. Should this player be on the receiving side, the serving side scores one point. Should the net be touched simultaneously by opponents, the ball is thereby put out of play and the serving side serves again.

No dribbling is allowed at any time through the game; i. e., no keeping the ball in the air by one player hitting it quickly and repeatedly.

In sending the ball across the net, players should aim for an unprotected part of the opponents' court, or try in other ways to place them at a disadvantage.

Score.—This is entirely a defensive game, the score being made on opponents' fouls and failures. Aside from fouls, only the serving side scores. A good serve unreturned scores one point for the serving side. A point is similarly scored by the serving side at any time when the opponents fail to return a ball which is in play. Failure of the serving side to return a ball to the opponents' court merely puts them out; that is, the serve passes to the opponents, but no score is made on the failure. Should a player touching the net be on the receiving side, the serving side scores one point. A ball sent under the net is out of play and counts against the side which last struck it, their opponents scoring one point. If the ball strikes any object outside the court and bounds back, although it is still in play, it is counted against the side which struck it out, their opponents scoring one point. A ball sent out of bounds by the receiving side in returning a service scores one point for the serving side. One point is scored for the opponents whenever a player catches the ball, or holds it for even an instant. The game consists of twenty-one points.

2. Tether Ball.—Tether ball is a very superior game for two people, and it may be played by more. The directions are quite simple and the equipment is inexpensive. I quote from Bancroft¹ again concerning this game:

¹ Bancroft: *Games for the Playground, Home, School, and Gymnasium*, pp. 409-411.

TETHER BALL.

2 to 8 players.

Out of doors.

This is one of the most delightful and vigorous games, especially adapted to small playing space, a plot twenty feet square being enough for it. The paraphernalia for the game consists of a wooden pole placed upright, so that it shall stand ten feet above the ground. The pole must be embedded deeply enough to be perfectly firm during the strain of play. It will probably need to be about three feet below the surface. A pole should measure seven and a half inches in circumference at the ground, and should taper toward its upper end. A black stripe should be painted around it six feet above the ground.

To the top of this pole a ball is attached by a stout linen cord or fishing line. The ball should be preferably a tennis ball, and should have a netted cover, by means of which it is attached to the cord. No metal should be used around it in any way. The cover may be knotted or crocheted of heavy linen cord or fish line. When hanging at rest, the ball should be seven and a half feet from the top of the pole, and two and a half feet from the ground. The ball is played upon by tennis rackets in the hands of two players.

A tether-ball outfit, consisting of pole, ball, cord, and marking ropes, with staples for the ground as hereinafter specified, may be had for from three to four dollars, the ball alone, with cover and cord, costing about seventy-five cents, and the pole from one dollar to a dollar and a half. It is particularly desirable to have the specially made ball and cord for this game, but any of the paraphernalia may be improvised, the pole being cut from a sapling, and even the bats whittled from strips of thin board about the size of a shingle.

On the ground around the pole a circle should be drawn three feet in radius; that is, six feet in diameter. A straight line twenty feet in length should bisect the circle to separate the territory for the players. In addition to the circle and line, two spots should be marked on the ground, from which the ball is served. These should be at the ends of an imaginary line crossing the first line at right angles, and should be six feet from the pole, one on each side of the ground.

Where there are more than two players, they are divided into two opposing groups, each member of a team or group stepping forward, in turn, to play with the member of the opposite team. Only these two play upon the ball during one game.

The game consists, on the part of one player, in trying to wind the cord with the ball attached around the pole above the line by batting it with his tennis racket. The opponent tries (1) to interfere and reverse the action of the ball by batting it in the opposite direction, and (2) for his part to wind the ball around the pole in his direction.

The players toss rackets or resort to some other method of choosing sides of the ground. The game starts with each player on his service point; the player who lost in the toss for choice of ground has the first service. The player who has the choice of ground has also the choice of direction in which to wind the ball.

The ball is then put in play by the server, who may hit the ball but once. Should he fail to send it across the line with his first serve, he loses his serve and the opposite player has the ball. The players have each one strike at the ball in turn. It is sometimes possible to send the ball so high and with so much force that it will wind around the pole in one stroke, before the opponent can hit it with his racket. Of course such strokes should be the endeavor of both sides.

Should a player fail to hit the ball, the opponent has the next turn, either on service or after the ball is once in play.

Each player must keep entirely on his own side of the dividing line with his feet, his arms, and his racket. Neither player may step on or over the circle about the pole. If the string winds around the handle of a racket of one of the players, it is a foul. It is also a foul for the string to wind about the pole below the black mark, and counts against the player in whose direction it is wound; that is, if it winds in the direction in which he is trying to send the ball. Penalty for transgression of any of the above rules (fouls) is allowing the opponent a free hit from his service mark. When a ball is taken for service in this way, if it has to be either wound or unwound on the pole a half-turn, so as to reach the other side, it shall be unwound.

The game is won when the string has been entirely wound around the pole above the limit line. When there are but two players, the one wins who has the majority out of eleven games. Where there are more than two players, the team wins which has the greatest number of games to its credit at the end of from two to five rounds, as may be decided at the opening of the series.

3. Tennis.—Tennis is a superior game for two or four people, but it takes a great deal of time and it is somewhat difficult to find good courts and keep them in condition. It is, however, an ideal exercise, for the reason that it requires the players to assume almost all possible positions.

4. Basket-Ball.—Basket-ball is an excellent game for both boys and girls, although unless it is quite well supervised it is somewhat rough for girls. It is a very violent exercise, no matter what rules are in use. It is both an outdoor and indoor game, and this is a decided advantage. At present it is probably the most popular school game, although there is no reason why volley ball might not become fully as popular if children were taught to play it.

5. Corner Ball.—Another fine ball game, which may be engaged in by any number of players at one time, is corner ball. The rules are simple; it requires no equipment except a basket ball or volley ball, and it is fine exercise. Bancroft¹ gives a very simple direction concerning the game, as follows:

CORNER BALL.

10 to 30 or more players.

Playground; gymnasium.

Ground.—The ground is marked off into a space measuring

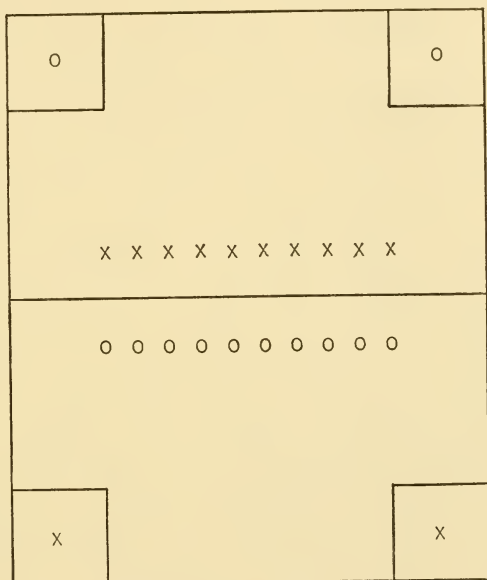
¹ Bancroft: *Games for the Playground, Home, School, and Gymnasium*, pp. 359, 360.

at least twenty-five by thirty feet. This is divided across the center by a straight line. In the farther corners of each half so made, a small square goal is marked out, there being two such goals in each court.

Players.—The players are divided into two even parties, each of which takes position on one side of the ground and stations a goal man in each of the goals at the rear of the opposite side.

Object. — The object of the game is to throw the ball over the heads of the opposing party to one's own goal men, who are at the rear of the opponents' court.

Rules and points of play.—The players on each side are not bound to any special territory within their own court, but will naturally see that each of the goals at their rear is well protected, and will try to intercept the ball before it can reach these goals. They will also, of course, try to throw the ball over the opposing party to their own goal men in the opposite court. No player may cross the line which divides the two halves of the ground. The goal men may not step outside of their goals. Any ball caught in this way fails to score. No opponent may step inside of a goal. When a goal man catches a ball, he must at once throw it back, trying of course to get it to his own party over the heads of the opponents, who try to intercept it.



Score.—Every ball caught by a goal man scores one for the party throwing. The side first scoring twenty points wins the game.

6. **Baseball.**—Baseball is doubtless our most popular game for boys, but usually it cannot be played in rural schools, because there are not enough large boys to make two good teams; and in the elementary schools in the city and town a playground large enough for the sport is a rare thing.

7. **Indoor Baseball.**—Indoor baseball is another game which might be introduced in rural schools everywhere. It may be played either by boys or girls or by both boys and girls playing together. The equipment is inexpensive and the rules are quite simple. It gives good exercise in running, but on the whole is not a very violent game. The rules are too long to be quoted here. The teacher should secure a Spalding Guide for this game.

Clubs.—The gregariousness of the adolescent boy and girl is well known to all students of pedagogy. It manifests itself in the games mentioned above, but at the present moment it is receiving its merited attention in the form of boys' and girls' clubs of all kinds. Among the important ones may be mentioned: agriculture clubs, corn-growing clubs for boys, canning clubs for girls, stock-judging teams for boys, fancy-work clubs for girls, The Boy Scouts, The Campfire Girls, and reading clubs. The school-house should be the center from which this club work radiates, and the teacher, or some other wise lover of children, should be a sympathetic director for all of these activities.

Community Recreation.—Grown people need recreation quite as much as children, no matter whether they reside in some lonely, isolated countryside or

in some great throbbing city. At the present moment nearly all large cities spend thousands of dollars for recreation purposes, the city of Chicago being possibly the leader in this movement. Some of the work is done in connection with the public schools and some in special buildings or in the cities' great parks. The work is well started in a dozen American cities, but it is only started, for there are still thousands of people who are not reached by the movement, many of whom need it most. Very little has been done in the towns and smaller cities of the country, and almost nothing in rural life. The farmer and the farmer's wife need recreation as much as any members of society. The need grows out of the fact that their work is hard; they live in isolation and they also have, at certain seasons of the year, a great deal of leisure. Farmers and their wives should have a good opportunity to play in winter, for the summer is a very busy season, though not all of it should be given to work. The city man usually plays more in summer than in winter.

The one most in need of recreation in rural life is the farm woman, because her isolation is much greater than that of the man. He can run away and go to town or find excuses to go to the neighbors, but the woman must stay about the household duties. She needs time to read; she needs a vacation and an opportunity for social intercourse with her fellow-workers; she should have this for protection against nerves and ennui. The community tasks which bring women together are no longer household tasks, therefore it becomes necessary to find other motives for the organization of the women of the community. The Hesperia movement, which is well organized in

Michigan, is a sort of a "community interest club" not unlike the parent-teacher organizations. It includes the women, so do the parent-teacher associations, and the various mothers' clubs have specific values. All of these movements are sporadic. Here and there throughout the country are very good women's organizations for various purposes.

Some day we will be wise enough to make the schoolhouse a center for this work. It will need to be a much better building than we have now, and the community served should be larger than that of a school district. A good consolidated school, with modern equipment, including a library and a good assembly room, would do much to provide for the recreation of both men and women in rural life. This should be the meeting-place for the women's clubs, literary societies, and grange meetings, and serve for holding farmers' institutes, farm-product exhibitions, home-product shows, special lectures, moving-picture shows, and musical entertainments. If the campus had a suitable playground, it could be used for track meets, tennis tournaments, and baseball games during the summer months. Grown people enjoy and need these about as much as do the young people.

The foregoing presents no simple problem, but calls for leadership and organization. For the present the teacher needs such training as will help in the movement, for it will be some time before we are so thoroughly aware of the value of all this as to have trained leaders for the work. The task is big, but it is significant and tremendously worth while; especially in rural life are the issues great, because the success of democracy in this great country is dependent upon an intelligent citizenship

which knows how to learn and to co-operate,—to work and to play.

PROBLEMS FOR STUDY.

1. What training have the people of the United States for enjoying their holidays?
2. Did the ancient Greeks understand the value of play better than do the American people? What makes you think so?
3. What are some of the ways in which the play instincts have asserted themselves in various ages of the world's history?
4. How do plays and games for the home, school, and community differ?
5. Name and explain several suitable outdoor games for school; indoor school games.
6. State the value of clubs to school boys and girls. What is your community doing in these respects?
7. What is meant by a wider use of the school plant? Show how this idea is growing.
8. State some vital problems confronting the rural church and the rural school. How shall these problems be solved?
9. What specific training have you received in school to provide for your leisure time?
10. Suggest a suitable list of games for rest and recreation for adults in your community.
11. Do you know of a school plant which is used as a social center? Tell about its activities.
12. Explain the Hesperia movement.
13. Tell about the work of the reorganized Grange.
14. Find out about the values of the old-time barn

raisings; corn huskings; singing schools; spelling matches; quilting parties.

READINGS.

Bancroft: *Games for the Playground, Home, School, and Gymnasium.*

Corr: *The Survival Values of Play.*

Curtis: *Play and Recreation.*

Curtis: *Education and Play.*

Johnson: *Education by Plays and Games.*

Scott: *Social Education*, Chap. IV.—VII.

CHAPTER XIX.

MORAL TRAINING.

SINCE the advent of Herbartian psychology and pedagogy, it has been recognized that the chief aim, or one of the important aims, of the school is the formation of good moral character. It has often been stated, also, that good citizenship is the fundamental aim of the school. This is the same, in the main, as the formation of character, because we measure citizenship in terms of morality. Though we have insisted on these things as the chief aims of the school, the fact still remains that the school has largely given its attention to intellectual achievements. Indeed, school practice at present is given over almost completely to intellectual tasks of one kind or another, and few tests are made to determine whether the theories of life furnished in these intellectual activities can ever be made to function in conduct.

Methods of Teaching Morals.—It may be said that there are possibly three theories concerning the way in which moral training may be given. The first and the oldest one is that a definite body of principles or problems should be memorized or learned by the student. In some countries and in some states of the American Union, we have this form of moral training worked out in great detail. But this method can never meet the requirements of the case. It rests on an antiquated psychology which ignores the principles of habit formation in connection with

any form of character building. No doubt it is possible for theory to precede practice in many important phases of learning, but there needs to be an intimate connection between the two, and, even if a principle is stated, many special kinds of application must come under the principle if habits are to be formed. A recent study shows that nearly every man in a certain penitentiary who had been sent up for burglary, or stealing in any form, knew the commandment against stealing, but the theory which he had learned had never been functioned in enough special habits to prevent him from taking the property of others. It is doubtful if any syllabus on the subject of moral training, no matter how elaborate and perfect, can ever be used alone to great advantage.

The second theory concerning moral training is that it should be given incidentally in connection with the various subjects of the curriculum and with the organization and discipline of the school and in the whole range of the social and play activities of the school group. This theory has the advantage of furnishing an unlimited number of concrete situations for activity and habit formation. However, a great difficulty grows out of the fact that a thing which is placed in the incidental column of school interest commonly receives little or no consideration, and this is true concerning moral training in most elementary public schools.

The third theory regarding moral training is that a somewhat well-defined group of principles should be stated with a very positive effort on the part of the school to supply a great many concrete situations to work these principles into habits of conduct which shall ultimately make up the fundamentals of char-

acter. This is the basis on which the problem must find its final solution. It will be observed that the author does not take into account mere negative forms of training, because he does not believe there is value in merely keeping children from doing immoral things. True morality and character are not the results of refraining from bad or immoral actions. Let us discuss some of the important school situations and try to discover their value for moral training.

The Discipline of the School.—In Chapter XVI. a somewhat detailed discussion of discipline is given. The general purpose of that discussion is to point out the value of school discipline as an agency for developing right habits. Great emphasis is there put upon discipline as presenting, in a very important way, the *doing* side of school life and making out of it constructive material for the social welfare.

Curriculum for Ideals.—Undoubtedly the whole curriculum of the school should be used in such a way as to furnish principles and ideals for habit and character formation. When tested by this principle much of the material of the elementary school curriculum makes a bad showing. It is good only for memory and uninteresting drill. Very much of it is "dead wood," and should be cut out.

The kind of history, geography, language, and literature work out of which moral values may come must be full of human interest and not an accumulation of facts. They must present up-to-date, live situations. It is time to do away with much of the old fact material of history, the fact-and-place material of geography, and much of the so-called classic literary material in reading, language, and liter-

ature studies, if we expect to get moral results out of these subjects.

Nature-study work and agriculture should be used to furnish *doing* situations; not theories nor hypotheses about these subjects taken from textbooks, but the real stuff out of doors, in the schoolyard, the garden, and the fields. In manual training and household arts abundant opportunity is afforded to carry on this kind of work.

Of the fine arts, music and drawing afford a large measure of worth for moral training. The accuracy demanded for drawing, which involves certain habits of doing, gives concrete evidence for measuring the efficiency with which the task has been done. We know very well the great value of music as a factor in control of the spiritual life of both the child and the adult. The late Will L. Tomlins claimed, earnestly, before the Department of Superintendence in Chicago, a few years ago, that music offers a greater opportunity for moral training than any other subject in either the elementary or high-school curriculum. He may have overstated the case somewhat, but certainly we have not utilized this material as it should be for this purpose. We know how the playing of some popular air by a band affects a whole crowd, and how the fine presentation of an opera or oratorio will thrill an audience of ten thousand people. The author heard one of America's greatest artists sing "Home, Sweet Home" to an audience, and he will never forget the effect, the marvelous effect, of that simple little melody. The teacher in an elementary school should recognize the great worth of music in the formation of the child's character, and should make a critical examination of selections adapted to various occasions.

School Tasks.—All school tasks have moral value in that they represent work which makes for character. The way in which these tasks are performed is not a matter of small concern, for the school or society, because in the doing of them habits of punctuality, industry, honesty, thoroughness, neatness, self-control and co-operation are being established. These habits are worth while for success in school; they are the very stuff out of which success in life is made. Moreover, it is important that the school tasks should be set and carried out in such a way that it will be evident to the child that they do have a bearing on life itself and that they are not for school only.

School Activities.—Large moral values are attached to the “special-day” programs which may be rendered by the school. Among the more important are the observance of Labor Day, Columbus Day, Thanksgiving Day, Christmas Day, Lincoln’s Birthday, Washington’s Birthday, Arbor Day, and, if the school is in session, the Fourth of July. All of these days should serve as opportunities for inculcating great moral lessons.

Another special opportunity for moral growth can be found in the numerous club organizations which are possible for both rural and town life. Some of the more important of these are boys’ clubs for corn-growing, stock-judging, and debating, and the Young Men’s Christian Association. For girls: canning clubs, sewing clubs, reading clubs, and the Young Women’s Christian Association. All of these clubs may be organized in such a way as to provide fine opportunities for co-operation for personal and community betterment.

In a former chapter we have discussed at length

the subject of recreation with a large emphasis on plays and games. There is no more valuable opportunity for teaching right conduct than is to be found in games. They represent "doing" situations in which co-operation, fair play, and self-control may be developed. In many respects a good baseball game affords the best possible opportunity for teaching moral lessons. The misplay of a single individual may lose the game; in which case it is very evident that, even though but one person made the error, the whole team shared in the loss. This is a fine moral lesson which we all have learned in many different situations in our complex institutional life.

The Teacher.—The personality, example, and sympathy of the teacher are factors in the moral development of children. We would be glad, no doubt, to escape this large responsibility if we could, but the instinctive capacity for imitation asserts itself with small children, and even on into the period of adolescence, in such a way as to make the spirit and life of the teacher a tremendous factor in the development of the child.

One or two studies have been made on this problem with respect to the influence of the teacher on the adolescent, and the results have uniformly borne out the idea that the teacher's influence for good or evil is very significant.

Schoolroom and Equipment.—We are beginning to learn that the actual environment of the child has much to do with the moral fiber of its life; therefore, the convenience, comfort, and decoration of a schoolroom may have much to do with influencing his character. Schoolroom equipment may also be important in this matter, because it tends to make the school work complete, interesting, and effective. In

all ages we have recognized the value of Nature in influencing the life of man, therefore school grounds which have been planned in a way to appeal to the sense of beauty will have moral worth.

Home Tasks.—It is not possible for the school to furnish all the action necessary for moral growth. Much of this must be furnished by the home or society; therefore it is highly desirable that full and complete co-operation in this matter should obtain between the school and the home. In a good many schools we now have what is known as the “home project” plan in which children do tasks at home and receive credit at school. This is important from several points of view.

First, the school and the home come into co-operation, a thing which has not been done any too well in times past. Moreover, the parent comes to consider the work of the child of more importance in this way than if the home task is a mere incidental. Recently the attention of the author was called to a grade card on which a number of home tasks were listed, with the request that the parent give a grade on the faithfulness and thoroughness with which the tasks were done at home. At the end of the first month the mother complained that she did not know what grade she should give her daughter, as the task had not always been done well and sometimes had not been done at all. The teacher informed her that was the way things were done at school and also in life, and asked her to make a more careful supervision the next month. The result was that the daughter learned to do her tasks with punctuality and a large measure of thoroughness.

The writer knows a boy who was given certain definite home tasks in the fall. These were daily

tasks and were at first performed with considerable indifference and sometimes actual protest on his part, but after his grades had been reported to school, and the youngster was made to feel that home work was as important as anything he was doing at school, or perhaps more so, he made a marked improvement in thoroughness and willingness to master the tasks. These are but examples, of which hundreds might be cited. Graded home work is very simple in rural life, as there the tasks for children are definite, but it is not so easy in towns, or in great cities, because many times there are no suitable tasks for the children.

The Doctrine of Interest.—We need to remember that in all moral training, advancement comes to us when we recognize the value, or values, in the tasks we are trying to complete. It seems to me that in no other situation has the old psychology persisted longer than in the matter of moral training. We have thought that in doing disagreeable things and in certain prohibitions there is moral discipline. This is absurd in the light of modern psychology. Results are secured and the maximum amount of effort put forth when children, as well as grown people, are able to recognize important values in the tasks proposed for work; moral training is no exception to this rule.

PROBLEMS FOR STUDY.

1. Compare the influence of the home and the school in developing the moral character of the child.
2. How can moral character best be developed?
3. How does theory influence character building?

4. Set up several definite school situations which make for the development of moral character.
5. Does restraining one from immoral action have much value in moral character building?
6. Can there be real virtue without activity?
7. What kind of historical material is most valuable in building moral character?
8. Give the chief reasons for having music as an integral part of every school curriculum.
9. Give arguments against making school tasks too easy.
10. Distinguish by illustration between positive and negative morality.
11. Point out the values of school games in teaching right conduct.
12. Why should every teacher possess a good moral character?
13. Show how the æsthetic situations of the school in matters of good landscape, good architecture, good decoration, and good apparatus profoundly influence character.
14. Will doing a disagreeable task give moral training? Give reasons for your answer.
15. How much moral training may be provided by the school setting home projects for which it gives school credit? Make a list of some such projects.
16. How much moral value attaches to memorizing the Golden Rule and other such principles?

READINGS.

California Prize Essays.

Dewey: *Moral Principles of Education.*

Griggs: *Moral Education.*

CHAPTER XX.

VOCATIONAL EDUCATION.

Changes in Society.—Ours is the most complex social and economic order in the whole history of the race; and yet in America we do less today toward the proper guidance of the youth to find suitable occupation than in any other time of our history. Certainly we do less than any other modern nation. Formerly the household was largely the center of economic and social activities. The mother made the wearing apparel for her husband, herself, and the children. We do not have to go back many years to find her beginning with the raw material, such as wool, cotton, and the flax. In the summer she preserved and canned the fruits and vegetables necessary for the winter season. She made the butter and baked the bread; indeed, the household was a real manufacturing center, with the children knowing the processes and co-operating in the work. In many respects this constituted a good apprenticeship. Moreover, it involved the personal element, with love and affection included, for the mother was interested in the efficiency of her own children. The father, also, shared in this work, because he produced the raw material outdoors. Besides, he had his own specific tasks, such as killing and curing the meats, gathering and storing the fruits and vegetables. The sons co-operated with him in much the same way as did the girls with the mother in the house-

hold. In a large measure now this condition is changed. No longer is the household the center of such activities. We have the factory system outside the household and we are in comparative ignorance of its processes and organization.

The Elimination of Waste.—These radical changes have come about because of our extreme specialization in the matter of work and production. Undoubtedly all specialization has taken place on the assumption that it is in the interest of efficiency and the elimination of waste. Indeed, it seems that our efforts in this direction have almost become a passion and efficiency is nearly a slang word. However, it may be observed that these terms are yet largely on the economic level, because we conserve everything else in the world with more intelligence and earnestness than we do human life. When we visit a great packing plant we are much impressed by the fact that provision is made for the saving, not only of the best of the slaughtered animals, but also of the hair, hoofs, bones, horns, teeth, blood, and digestive system. The chief reason for the marvelous development of the Standard Oil Company is to be found in the genius of men who are preventing every single waste and utilizing by-products connected with the oil business. While it is not possible to point out a detailed analogy between these economic processes and human endeavor, yet it is imperative that we discover methods of conserving and directing all of the potentialities of human efforts and genius. We must locate and utilize all of our human resources to keep in harmony with the spirit of this scientific age.

Issues in Democracy.—Democracy stands for equality and fairness, yet we have an educational scheme

in this country which provides for vocational education for probably ten percent of the workers, while the other ninety percent must get their training by means of various unorganized agencies; all of which means that we do not take seriously the implications in democracy. The arguments which have long been accepted for professional education, and are now being used for agricultural education, may, with equal force and conclusiveness, apply to the whole problem of education in all of its industrial and vocational ramifications.

We need to face the issue squarely. Society pays all the bills in the end, no matter how the training is obtained. If we force workers to learn their trade or vocation in unorganized conditions in which they experiment on the general public, in the end we will have paid for their experience or want of experience just as certainly as if we had a tax levied upon us by society for this training. Moreover, we force the worker to obtain his skill and experience in a bad moral situation, because commonly he gets to work on his own account before he has thoroughly mastered his trade. The author has no quarrel with the plumber or painter, etc., yet we know that in these trades the workers frequently learn directly at the expense of the public. In every community there are plenty of concrete examples of inefficiency in plumbing, heating, and house painting. It is not the fault of the painter or plumber, but of society, which has not provided adequate means for the training of these men. We must make up our minds that we are paying the bills for all this lack of skill in the various trades and professions. An organized means for the theoretical training, and, ultimately, the concrete training, of all such workers, undoubtedly

would be cheaper than the present unsatisfactory trial-and-error method.

Besides, such a procedure is right and fair, because we are committed thoroughly to the policy of training for the professions of law, medicine, teaching, journalism, engineering, and banking at public expense. Recently a great movement has swept over the country in which agricultural aid has been provided for in elementary schools, high schools, normal schools, colleges, and universities. Not only has it been urged that it would be too expensive to make plumbers, blacksmiths, carpenters, architects, painters, and decorators in the schools, but also that it is impossible to do so. We know that graduates from law schools, medical colleges, normal schools, agriculture schools, or engineering schools are not finished workers in any of these respective lines, for the finished worker comes only from years of application in the actual conditions of life. Yet we know that we are able to give such skill, vision, and insight as to minimize the number of mistakes made and to shorten the period of experimentation, thus minimizing the social waste of amateur workmanship. There can be no doubt but the same result would follow in the ordinary trades enumerated above. In Germany, France, and Switzerland the training of workers is far enough along to show quite conclusively that this is the case.

Types of Vocational Education.—For clearness it may be well to enumerate the ordinary divisions of vocational education. Commissioner Snedden in his "Problems of Vocational Education," made the following classification, and it is probably the best general statement which has been made. 1. *Professional education*, which includes law, medicine,

teaching, dentistry, theology, etc. 2. *Commercial education*, which includes a wide range of activities, from those of the big department store and counting-house down to those of the small general store. 3. *Industrial education*, which includes all of those activities connected with manufacturing and mechanical arts. The school has already undertaken some training for this work in the regular commercial courses, in which are taught bookkeeping, typewriting, stenography, commercial law, and commercial arithmetic. In this we have an innumerable list of crafts and trades, some of which require almost no skill for entrance, and some of which have very long periods of apprenticeship, or demand an elaborate technique, which has been secured in some technical school. Among the more important of these may be mentioned architecture and civil, mining, electrical, and chemical engineering. 4. *Agricultural education*, including a wide range of occupations, including the tillage of the soil, animal husbandry, dairying, gardening, etc. 5. *Household arts education*, which includes also a very wide range of instruction, ordinarily included under the term "home-making."

The Psychological Problem.—It is important that we recognize certain psychological factors involved in the problem of vocational education.

First, we know that it is necessary for workers to begin early to train themselves for any task which involves manual dexterity. This dexterity must be acquired during the period of muscular plasticity. It is too late to secure this dexterity if we wait until after the elementary school period.

Second, the choice of vocation also has a very important influence upon the life of the student

in that it develops in time a more serious effort and greater thoroughness and earnestness.

The Co-operation of the Home.—A large amount of discussion is going on at the present moment, in connection with home projects, with the idea of securing the co-operation of the home through parent-teacher organizations. In a general way all these interests have for their purpose the making of the school work more real and vital. So far as the rural school is concerned, it does not seem possible to solve within it all the vocational problems which are now pressing for attention. Especially is this true of the one-room rural school. Moreover, it is doubtful if it would be wise to undertake their solution even in a consolidated school. The home and home work should furnish the laboratory training for most of the vocational education in rural life, while the factory and shop should furnish a large part of the vocational education for town or city children.

In rural life, the home with its tasks may be made directly the setting for real vocational education. Furthermore, this furnishes a true basis for co-operation between the home and school. Among the more important home-work projects are those of girls' clubs, such as canning clubs, fancy-work clubs, etc. Indeed the whole household arts problem should relate to the home so far as the laboratory aspect of the work is concerned. In agriculture we have boys' corn-growing and stock-judging contests, etc. The school cannot carry on much of this work in this country under its present organization, because the rural school has a short term and is not in session during the summer months. Moreover, the teacher is changed from year to year and the schoolhouse and school grounds are not adapted for the work.

Finally, it would be absurd to make so large an investment under such conditions. Possibly the time may come, in the distant future, when we will have long terms of school and teachers at work all the year around, according to the ideals of the present Commissioner of Education, but that seems still a very long way off and suitable co-operation between home and school, on the above outlined basis, is our best immediate solution of the problem. It cannot be urged that we should do the work as it is now being done in Germany and Switzerland, for our case is different. The schools in those countries are in session more than two hundred days in each year, and, furthermore, the school there commonly owns a small patch of ground and the teachers have permanent tenure.

Social and Moral Phases.—There are important social and moral aspects of vocational education which we must take into account. Undoubtedly, some of the continuous movement to the city would be stopped if boys and girls in the country better understood the working conditions of the city, and the temptations and vices incident to certain trades and occupations there. The school should furnish enough guidance for boys and girls to understand the moral, economic, and social advantages and disadvantages in various trades and professions. Even in the professions, men and women find themselves wholly out of sympathy with the sacrifices and limitations imposed upon them by the work. Many trades are mere “blind-alley” occupations, and boys and girls should be shown the “alley” before they get far into it.

There has been much discussion of the danger of culture’s being lost if we lay stress upon the practical

or vocational aspects of education. This is all unnecessary when we consider the fact that vocational education, as discussed in this chapter, in a large measure reaches people whose educational opportunities are limited, for more than half of the school children of the country do not continue in school past the sixth grade, and about seventy-five percent do not get beyond the first year of high school. Under the present régime, about three-fourths of the people are not being inoculated with culture. Undoubtedly one of the reasons for this large loss of school populations before any considerable training has been secured is due to the fact that the school work is too bookish, and there is much evidence to support the contention that many thousand more school children would be willing to continue longer in school if they were allowed to do work which could be turned to vocational account.

This work should begin in the elementary school and should continue on up into the high-school period. One of the significant things about the vocational education movement abroad is, that the work is carried on during the apprenticeship period in part-time schools, two or three afternoons in the week, in evenings and sometimes on Sunday. The success of our night schools, when they offer vocational work, is striking evidence of the demand for such work in this country. But we should offer it at a time and in a way that will not be so trying on the worker. An evening school is better than no school at all, but society should realize that those who work all day and try to go to school in the evening are burning the candle at both ends and sooner or later will pay the penalty. One thing more: skill and mastery gained under right conditions

bring honesty, contentment, and happiness. How much of the discontent among American laborers is due to their not having had a fair opportunity to secure adequate skill for their forms of work, there is no way to measure, but it is an important factor in the case.

PROBLEMS FOR STUDY.

1. Give a clear-cut distinction between the character of the old-time American and the modern home.
2. Trace the development of the factory in America.
3. Distinguish between specialization and efficiency.
4. Should the school teach vocations directly? Why?
5. Is it the business of the school to turn out skilled workers?
6. Would it be economical for the schools to undertake to give training in the various vocations? Give reasons.
7. What are trade schools? How are they conducted?
8. What are the schools of the United States doing in matters of vocational education?
9. Can the rural school wisely undertake vocational education? Why?
10. What is the best present solution of vocational education in the United States?
11. Has vocational education cultural value? Justify your answer.
12. Discuss the merits and demerits of an evening school.
13. Is it true that we allow much human capacity to go to waste? Explain.
14. Show that it is fair for society to train all its workers.
15. Should vocational schools be separated from the ordinary public schools? Why?

16. Does the fact that this country is a democracy have anything to do with the answer to the above question?
17. Name the various types of vocational education.
18. What are the arguments for a continuous school?
19. What special problems are presented when we undertake to teach the trades in a one-room rural school?
20. Is it true that society always pays excessively for unskilled workers?
21. Do you know of such a case as regards the work of a carpenter? Plumber? Railroader? Teacher?

READINGS.

Davenport: *Education for Efficiency.*

Hanus: *The Beginnings in Industrial Education.*

Leavitt: *Examples of Industrial Education.*

Snedden: *Problems of Vocational Education.*

CHAPTER XXI.

MEASURING THE RESULTS OF EDUCATION.

IN the affairs of government, in business, in the church, and in the school, we are examining, in a more critical way than ever before, the organization and its efficiency, and trying to discover ways to make progress. In some respects this critical view of institutions is more manifest in the United States than in any other country, but the spirit is world-wide. In this discussion we are concerned with the factors of measurement applicable to the school.

Grading by the Teacher.—It has always been the function of the teacher to try to measure the progress of children in the school and the school as a whole, but the technique of grading has been crude and imperfect. Some scheme of grading and promotion is now in use in almost every school. A pupil's progress and standing are usually described by a grade or form and then given a rank by *letter* or *percent* to denote the student's mastery of the grade of work. The fixing of these per cents or letters is largely a matter of personal opinion and feeling, and therefore has no definite scientific meaning. They mean little to the teacher, and almost nothing to the children, the parents, or the community. To say that John Smith's average is ninety percent in a subject in the fourth grade, or in all the subjects of the fourth grade, or to say that his rank in these matters is *G*, under some letter scheme, is to say almost nothing about John Smith which can be inter-

preted by anybody except the teacher—even if *she* knows what is meant.

Such classification is worthless to everybody concerned. A better scheme, for reports to parents and the community and for permanent record, is to rank all the students in a given class or group. This indicates, relatively, something concerning the comparative standing of the pupils in the school and, after the ranking is done intelligently and fairly, it may be of some value; but even this does not describe the students with sufficient accuracy to be of great value when a new teacher comes into the room or grade. We should find some means of describing the progress of children, other than by grades or letters. The following terms might be used as a tentative means to describe children: initiative, persevering, impulsive, reliable, industrious, hopeful, even-tempered, pessimistic, etc. To be sure, this list is not adequate nor final, but it designates the qualities which are important in an accurate description of any human being, and I am confident it stands for something more vital than percents or letters.

Scientific Tests.—By experiments in education we are now trying to discover suitable tests to use in measuring achievements in the various school subjects. We are not very far along with this work, but, beyond question, it is to be the field in which much necessary investigation will be made in the next decade. The important studies are those of Thorndike, Ayres, and Freeman concerning handwriting scales. For arithmetic we have the work of Stone and the elaborate Courtis tests. In reading, no very good scale has been evolved, but the work of Huey and Dearborn has been helpful and interesting. A good deal of attention has been given to the

subject of spelling by Rice, Cornman, and Suzzalo. For composition we have the Hillegas scale and certain studies provided by Courtis. The report of the Committee of Grammatical Nomenclature, and by the joint committee of the National Education Association, the Modern Language Association of America, and the American Philological Association represent valuable contributions to the study of grammar. Several subjects are not mentioned in the above list, for very little has been done with drawing, geography, and history; and nothing with music, household arts, and manual arts. Some of these subjects ought really to present much easier situations than certain of the others already investigated, because they are more definite and concrete in the problems which may be set.

The most important subject in the whole field of education is *Economy of Time*, and this is now being investigated by a committee of the National Education Association. This committee is known as the Committee on Economy of Time in Elementary and Secondary Education. Its chairman is Supt. H. B. Wilson, of Topeka, Kansas. Associated with him are a number of America's foremost school men. Some of the more important investigations of this committee are the following:

1. The Useless Duplication in the Presentation of the Subject Matter of Arithmetic, by Professor W. A. Jessup, of the University of Iowa.
2. The Standardization of the Minima in the Subjects of the Elementary Schools, by Professor W. C. Bagley, of the University of Illinois.
3. The Waste Due to the Short Professional Life of Teachers Due to Low Salaries, by Professor W. W. Charters, of the University of Missouri.
4. The Extent to Which State Organization of Public Education May Operate to Secure Economy of Time, by Professor G. D. Strayer, of Columbia University.

5. An experiment on a seven-year course for Elementary Schools is being carried on by Professor C. H. Judd, of Chicago University.
6. The gathering of information as to researches in progress in various universities is receiving the attention of Professor Frank E. Thompson, of the University of Colorado.

The Survey.—The survey is a critical study, made by the school or the community to determine the efficiency of the school. To be valuable it should be made by thoroughly trained experts, in sympathy with the spirit and purpose of the system or state. It should be made for *constructive* and not *destructive* purposes. Such a survey will include a careful observation of the organization, administration, supervision, financing, equipment, training in efficiency of teachers, the methods of instruction, the children, and the physical environment of the school.

Many city and state surveys have recently been made by different agencies. How successful they have been is largely a matter of guesswork and opinion. But such attempts indicate that society is earnestly trying to measure the efficiency with which the school does its work. Some \$600,000,000 per year is spent on public education in this country. In some communities it costs four or five times as much to get service as in others and, so far as we can discern, there seems to be no considerable difference between the types of service rendered. Undoubtedly there should be some critical study of such conditions to try to determine what is a reasonable expenditure of public funds for educational purposes.

Social Valuation.—Besides the survey we have various forms of social valuation, informal in character and based on public opinion. Certain habits or types of moral conduct are found to be important for social welfare. It is urged that these habits

should be acquired during the elementary-school period. The ideals of life are acquired by the boy or girl while in the elementary school; and about three-quarters of all the people of the country have no other education than that of the elementary school. Therefore, it is imperative that fundamental race ideals should be presented in connection with history, literature, and the industries in such a way as to provide for the maximum opportunity for the formation of right ideals while children are going through the elementary school. At the present moment, society is insisting, with great earnestness, that the graduates from our schools shall have the will and the capacity to do some work efficiently. We may lack technique and experience to evaluate the school's output, but this does not excuse us. Democracy is becoming more insistent that the scheme of education shall justify its existence by the results it secures.

PROBLEMS FOR STUDY.

1. Do you know of some efforts at scientific measurements in business or factories? Describe them.
2. Do you know a farmer who keeps books accurately concerning his farm business and experiments? Discuss the plan.
3. What does the school clerk's annual report show about the scientific management of the affairs of the district? What does the teacher's report show?
4. In what respects are these reports measurements of efficiency?
5. Study in detail the legally required reports of school officers and teachers in your state. How do these measure or fail to measure school efficiency?

6. Study critically all the grading systems you know about, and try to determine their values.
7. Criticise the author's plan of describing children under terms denoting individual characteristics.
8. Make a study of all the cases in which you thought you were unfairly graded. What was the trouble?
9. Secure one of the Ayres or Thorndike handwriting scales and try to apply it to a group of children.
10. Do the same with the Courtis Arithmetic Tests and Language Tests.
11. What is an educational survey? Discuss definitely one or two types of educational surveys.
12. How might efficiency in history, geography, drawing, music, and the manual arts be measured?
13. How can teachers measure the efficiency of children without using grade marks?
14. Point out some of the chief defects in our present "marking system" as a measure of efficiency.
15. Should the schools be required to adopt the grammatical nomenclature mentioned in this chapter? Why?

READINGS.

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- Ballou: *Scales for the Measurement of English Composition*. The Harvard Newton Bulletins, No. II., Sept. 1914.
- Buckingham: *Spelling Ability: Its Measurement and Distribution*. Columbia Contributions to Education, T. C. S. No. 59.
- Courtis: *Manual of Instructions for Giving and Scoring the Courtis Standard Tests in the Three R's*. Department of Co-operative Research, Detroit, Mich.

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CHAPTER XXII.

TEACHING AS A PROFESSION.

Skill Necessary.—Teaching can never become more than a craft—that is, it cannot be a profession—until the workers recognize the value of special training and technical equipment for the work. Several studies have been made recently by the specialists on the staff of the United States Commissioner of Education to determine the preparation of our teachers; in almost every state in the Union some observation has been made concerning the training of men and women who go into the work of teaching.

Uniformly, it has been found that beginners have little or no special training for their important task. To fill about 125,000 vacancies, which occur annually in the United States, we have some 25,000 trained teachers. In this 25,000 we include the graduates of all the Normal Schools in the country, both public and private, as well as the entire output of the departments of education in colleges and universities. The few hundred graduates from teacher-training classes in high schools, are inconsiderable in the solution of the problem of trying to find a hundred thousand teachers each year. Conditions in some states are worse than in others, but nowhere is the problem near a real solution. More than sixty percent of the untrained teachers go into the rural schools for their first teaching experience.

It is absurd for us to expect society to extend high appreciation to a work wherein so small a measure

of skill is required. There is no hope for any considerable economic or social recognition for workers with such scant preparation. We must demand and secure adequate professional training before society will be willing to recognize our work as professional. We are put to shame when we note the difference between the requirements for becoming teachers and those necessary to practice law, medicine, dentistry, or pharmacy. All the more absurd is this, too, because we are saying continually (and having society say to us on occasion) that we are performing the most important work outside of the home itself.

The Need of Co-operation.—We need to learn how to co-operate, in order that we may come into accord with the spirit of the times. We need to learn that modern co-operation is on an impersonal basis, involving a large measure of faith and good will; especially is this true in teaching, for the thousands of teachers in a state or nation never come into direct personal relationship. We are too selfish and individualistic to make use of co-operation to help us professionally. We secure positions by the most primitive methods of competition. Almost every country school is sold to the *lowest bidder* and it is not uncommon for principalships and superintendencies to be sold in the same way. It is no wonder that salaries are low in such competition as this. Even if we had the skill which merited social and economic recognition, salaries would still remain lower than for other forms of work until we learned the value of co-operation in securing our rights.

We have not learned to co-operate by helping our fellow-workers in case of accident or sickness. Both the profession and society have been slow to make

any provision whatsoever for retiring allowances or pensions after the teacher has worn himself or herself out in the work. All these matters might be remedied very quickly by sensible co-operation. In all other forms of industry, professions, and trades the workers have more effective co-operation than do the school teachers in their work.

Social Aspects.—Active skill and intelligent co-operation always bring social recognition. The fine skill of the German teachers has much to do with the social position of those public servants. If we would secure the skill and learn to co-operate in the more important matters mentioned above, very soon there would come that social recognition which the importance of our work rightfully deserves. Social recognition also implies self-respect, but no large measure of self-respect can be secured until our work is chosen as a lifetime career. Therefore it is absolutely necessary that suitable provision be made for retirement from the profession without fear of want and poverty and without having to try to secure in some other vocation the necessary means to provide for old age.

Tenure in Position.—A recent study¹ calls attention to the nomadic character of the teaching force in this country. In this study Mr. Coffman concluded that at least three out of four of the rural schools of the country have new teachers every year, and that one-half of the pupils in a given grade in any city or town will have a new teacher each year. The author has studied some three or four states in detail and his findings are thoroughly in accord with those of Mr. Coffman. Indeed, in two states studied

¹ Coffman: *Mobility of the Teaching Population in Relation to Economy of Time*, N. E. A., 1913, pp. 234-241.

the figures were conclusive that about eight out of every ten rural teachers have a different school each year. Viewed from any standpoint, this represents inexcusable waste and inefficiency. The high-school situation is not a great deal better, as about one-half of the teachers are new in the small high schools in the country each year.

There is absolutely no hope of making teaching a profession until men and women go into it expecting to stay in it for a lifetime, rather than to make it a means of earning a living for a time. Moreover, the moral situation for both the teacher and the student is very bad with such a short tenure. It takes time to know children and make any profound impression upon them.

Teachers' Organizations.—It may be urged that we have our National Education Association, our State Teachers' Association, county association or county institutes, and city associations or institutes, and that these should be utilized to make teaching a profession. The author has been a member of these organizations for more than twenty years and recognizes the great good all of them have accomplished; but he is of the opinion that some very positive reorganization must take place before these agencies can do much to make teaching such a profession as it ought to be. Some six or eight thousand members of the National Education Association can never do much for the 600,000 members of the profession, and a few hundred teachers in each state association can never do the work necessary to professionalize the thousands of men and women who will not join the associations. We have been trying to bring about a higher degree of professional consciousness on a voluntary basis, in this country, for more than three-

fourths of a century. No doubt we have made considerable progress, but much remains to be done. The writer is of the opinion that some very positive coercion will have to be applied before we can complete the work.

PROBLEMS FOR STUDY.

1. Contrast the profession of teaching in the United States with that in France and Germany.
2. Should teachers be required to belong to the various teachers' organizations? Why?
3. Compare the education required in your state in the different schools with the requirements to practice law, medicine, dentistry, or veterinary science.
4. Make a study of the professional preparation of the teachers in your county.
5. In the above question observe the distinction between academic and professional preparation.
6. Why is it so difficult to get co-operation among teachers?
7. What are some of the more important benefits which could come from closer co-operation?
8. If your state has a minimum salary law, study it. If it has not, make a study of some state which has such a law.
9. Have you or would you underbid in order to secure a position? Give reasons.
10. Do you believe in teachers' pensions? If so, plan a pension scheme for your state.
11. Would larger salaries do away with the necessity for retiring allowances or pensions? Justify your answer.
12. Make a study of the tenure of teachers in your

county and state. Show that short tenure of teachers is wasteful.

13. Do workers in banks, stores, offices, railways, change positions frequently? Why?

READINGS.

Bagley: *Craftsmanship in Teaching*.

Coffman: *Mobility of the Teaching Population in Relation to the Economy of Time*, N. E. A., 1913, pp. 234-241.

Judd: *Developing the Co-operation and Imitation of Teachers*, N. E. A., 1913, pp. 149-159.

Palmer: *The Teacher*.

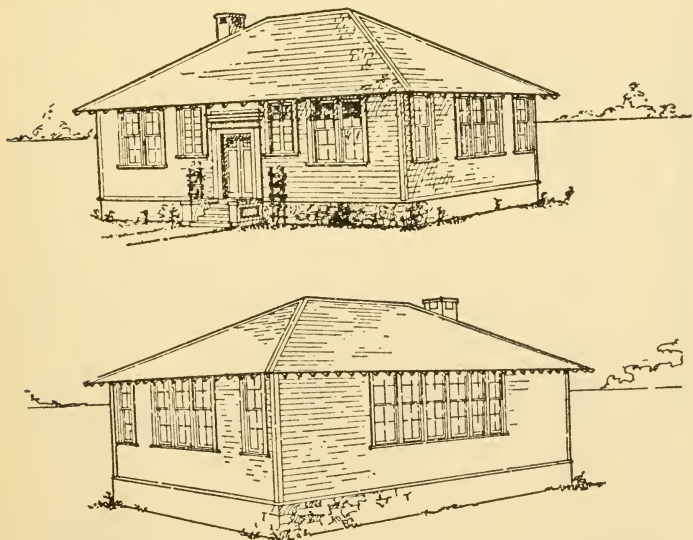
Suzzalo: *The Reorganization of the Teaching Profession*, N. E. A., 1913, pp. 362-379.

APPENDIX A.

MODEL SCHOOL PLANS.

I.

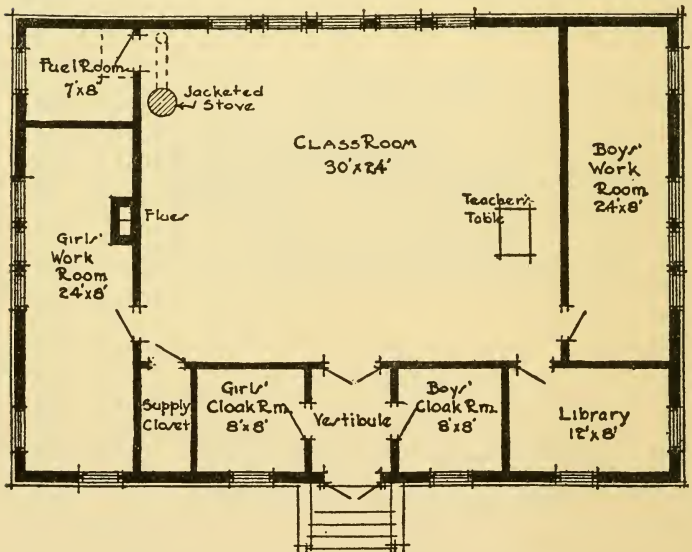
THE first plan presented is "Model No. 2," as taken directly from Dresslar's "Rural Schoolhouses and Grounds," which is Bulletin No. 12, for the year 1914, published by the United States Bureau of Education.



The dimensions of this building are 46 by 32 feet. In rural communities, where there are opportunities for utilizing the school for social purposes, it would furnish plenty of space. The girls' workroom, the boys' workroom, and the library especially lend themselves to uses of this kind. With a range in

the building, light refreshments could easily be prepared, and this, as everyone knows, would add greatly to the success of any social undertaking. If a teacher who understands how to organize a district school to meet the demands of the community were located in such a building as this, it is needless to say that she could at once interest the whole community in the rural life problems undertaken in the workrooms as well as in the classroom.

Naturally, this building should be located on good soil, with sufficient ground about it for agriculture and gardening, as well as for playgrounds,



The floor plan shows a one-teacher rural schoolhouse, with a classroom in the center of the building, and with the workrooms and library grouped around it on three sides. This building is designed to occupy a lot having an east or west frontage, and to make an entrance in the side of the building. If the front of the building is situated on a lot facing west, then the lighting

of the classroom would come from the east, and the boys' workroom would receive the south light, the girl's workroom would receive north and west light, the library would have south and west light, the cloak-rooms would receive west light. However, this building could be located so as to face east and be equally well situated with reference to the lighting. The advantage of facing west lies in the fact that the classroom would be shielded somewhat in winter from west and north winds.

This plan has two workrooms, one for the boys and one for the girls. This is a decided advantage. It gives room for different kinds of manual training equipment, and develops a sense of responsibility in both boys and girls by having special rooms for their special work.

The library is not quite so large, but there are two small cloak-rooms, one for the boys and one for the girls; in addition there is a fuel-room in the rear of the classroom and a small room for tools, drawers, and cases adjoining the girls' workroom.

No toilets have been planned in this building and (unless basement should be provided) detached buildings would have to be used. The location of a jacketed stove and chimney are indicated.

The classroom, as was said, is situated in the middle of the building, with only one outside wall. The windows in this room have been grouped closely together on the rear and left of the children when in their seats. The windows are set 4 feet above the floor and are 3 feet wide and 8 feet high. The distance from the finished floor to the ceiling is $12\frac{1}{2}$ feet. The classroom is 30 feet long and 24 feet wide and has desk room for 35 to 40 pupils.

Blackboards in this room are set on three sides of the room; none are on the window side. At the front end of the room, near the teacher's desk, the blackboard should be set $3\frac{1}{2}$ feet above the floor and should be $3\frac{1}{2}$ feet wide. On the other side it is better to set the blackboards 28 inches from the floor and to make them 4 feet wide.

Wainscoting should be placed beneath the windows and beneath the blackboards all around the room. On the window side, this wainscoting should reach to the lower part of the window casing; on the other side to the chalk trough.

The walls above the wainscoting and those above the blackboards should be plastered with the best material, before the building is used, should be tinted a light grayish buff or a very inconspicuous shade of grayish green. The colors of the red end of the spectrum should not be used in a schoolroom.

The boys' workroom, situated immediately back of the teacher's desk, is 24 feet long and 8 feet wide. It is lighted entirely from one side and has a door opening into the classroom near the library-room. Cases could be built in the outer end of the boys' workroom for tools and models used in connection with the shopwork.

The girls' workroom as shown is approximately 25 feet long and 8 feet wide and is lighted from two sides. A door opens into this room directly opposite the door into the boys' workroom, and thus allows passage along the wide aisle between the last row of seats and the inner wall.

Blackboards should be set in both of these workrooms on the inner walls and should be $3\frac{1}{2}$ feet above the floor and 3 feet wide. These blackboards can be used for many purposes, but are chiefly designed for drawings, lesson assignments, and plans in connection with the work done in these rooms.

The small room adjoining the girls' workroom, marked "storage-room," can be fitted up with drawers and shelves for sewing materials and also for kitchen utensils.

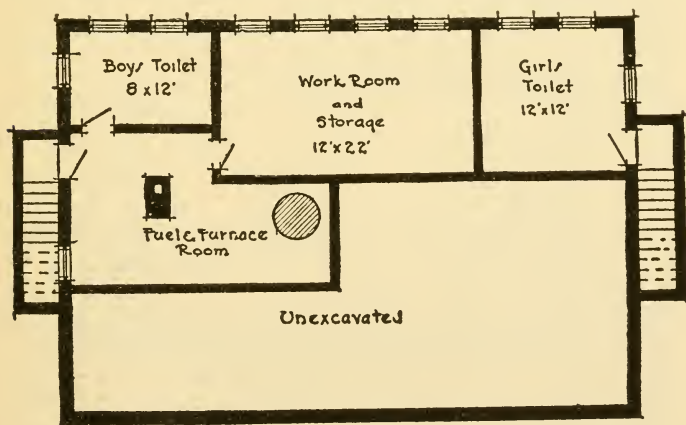
The library-room opens directly off the classroom, near the teacher's desk. This library is designed to be 12 feet long and approximately 8 feet wide. Book-shelves should be built around the wall in those spaces not occupied by the windows and the door. These shelves should not be more than 9 inches deep, and hence there will be room for a small reading-table and a few chairs. The walls above the book-shelves should be tinted the same color as in the classroom.

The cloak-rooms, opening left and right from the vestibule, have one door each and are designed to communicate only with the vestibule. Were it not for the fact that the blackboard space on the wall in the classroom opposite the windows would be greatly limited, a door should open into the classroom from each of these cloak-rooms. This arrangement would give the teacher better control and would prevent some congestion in

the cloak-rooms, but unless the blackboards in the workrooms could be utilized for some of the regular class work this change would not be advisable. The windows into the cloak-rooms, as will be noticed, are set 6 feet above the floor, so that the walls beneath them can be used for clothing-hooks. This provision will give plenty of light, and it also relieves the architectural features of the building to some extent.

All doors opening into the classroom should swing out. This applies to the doors of the workrooms, library, vestibule, and fuel-room.

The chimney passes up through the girls' workroom. This will permit the one chimney to serve both the jacketed stove or furnace and a range for the girls' workroom.



The floors of all rooms of this building should be double, except the vestibule, and that should be of cement or terrazzo. The upper floors in the other rooms should be made of hard pine, selected maple, or oak boards.

The wainscoting throughout the building should be stained a neutral brown, so as to reflect no high lights into the eyes of the pupils while they are at work. The roof should be of rather flat construction, preferably hipped.

The floor plan was drawn on the supposition that no basement would be provided. The accompanying plan shows how the basement could be arranged both for heating apparatus and for the location of toilets and baths and offers suggestions to those neighborhoods with sufficient funds at hand and opportunity to supply running water.

If a basement is provided under this building, the entrances to it should be from each end, beneath the workrooms, and these entrances should be guarded by some form of covering that would harmonize with the architectural design of the building. Walks should extend around the building and provision should be made for tile drainage.

A furnace could be located at the most convenient place in the basement, preferably near the center, and from that point hot-air pipes could be carried to the workrooms, library, and classroom. If provision is made for a fuel-room in the basement, a fuel-room on the main floor will not be needed, and that room could be utilized as a teacher's room.

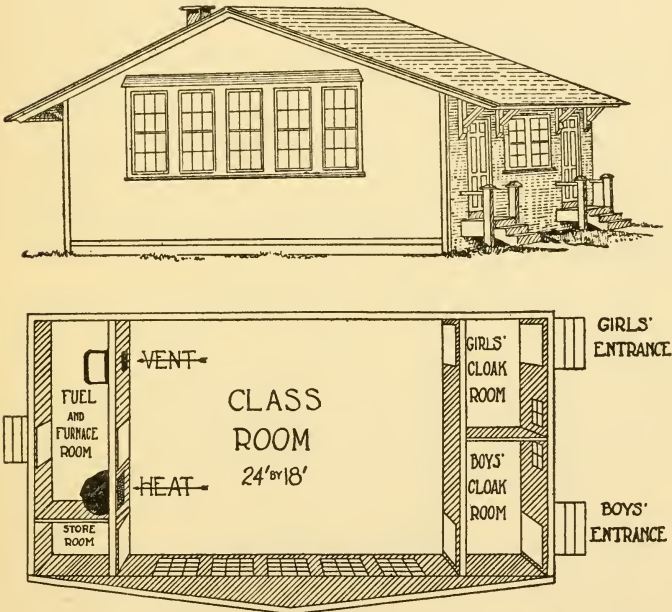
II.

The chalet effect in this building would be especially pleasing on a bench level of a hillside, with the windows facing up or down the valley. Such a position should be chosen only when there is sufficient amount of level ground to afford playgrounds and such gardening as a school of this size would undertake. The building should face the south, preferably, so as to get the west light in the classroom and the south light in the cloak-rooms. If it faced north, the classroom would get east light, which is frequently better than west light, but the cloak-rooms would not get as much sunshine.

This building especially lends itself to the clapboard form of construction; that is to say, the weather-boarding could be unplanned lumber fastened to an inner sheathing and then stained some color that would blend with the trunks of the forest trees. The long, flat roof and extended eaves give it beautiful lines, and if the grounds were treated to suit the building it would make a most attractive small rural schoolhouse. This

building should not be treated in any other way than in wood; it would not suit brick, stone, or cement.

The rather elaborate steps and overhanging roof give a quaint effect to the building, and would not be at all difficult or expensive to construct.



This plan represents almost the minimum of rural school equipment. Separate entrances connected with cloak-rooms are made for the boys and for the girls. From these cloak-rooms doors lead into the classroom, which, as will be seen, is designed for a district with comparatively few children.

The dimensions of the classroom are 18 by 24 feet. The architects have indicated the placing of 35 desks. This would give little less than 13 square feet of floor space to each pupil. This would not be sufficient, unless most of the children were of

the primary grades. Such a building as this should be used for not more than 30 pupils.

In the rear of the classroom provision has been made for a fuel-room, and also for a furnace which would introduce the fresh air into the room at a height of about 8 feet above the floor. The chimney is placed at some distance from the furnace on the other side of the fuel-room, and is designed to have a vent flue opening from the schoolroom near the floor line, in this way utilizing the heat from the furnace to create a circulation of air in the schoolroom. Possibly it would have been better if the chimney had been placed near the center of the partition, so that the smoke-pipe leading from the furnace to the chimney would not be so long, and hence less dangerous, and also to prevent dead air space near the window side of the room. However, this suggestion is not of great importance, because there is less danger of dead air space near the windows than on the opposite side of the building.

The classroom is lighted abundantly from one side alone. The windows are placed, approximately, 4 feet above the floor and run up to the ceiling. It will be noticed that the ceiling of the cloak-rooms and the fuel-room will not be so high as that of the classroom on account of the method of roofing. This will be a definite saving and will introduce no serious difficulty.

Two small windows, one in the rear and one in the front of the classroom on the right of the pupils' desks, may be included for the purpose of ventilation during warm weather. If these windows are inserted, they should be placed above the blackboards and so arranged that they may be opened easily from the floor. They are not designed for light, but are "breeze windows." These will relieve the rather bare side of the building, and give a better general effect architecturally.

The light in the cloak-rooms is preserved by cutting away the broad eaves immediately over the windows in front of the building.

In the classroom the blackboards are on three sides of the room, none at all being on the window side. The main blackboard is on the wall directly opposite the windows. Since this building is especially designed for primary pupils, the blackboards should not be set above 28 inches in height, except at

the teacher's end of the room. The width of the board should not exceed $3\frac{1}{2}$ feet.

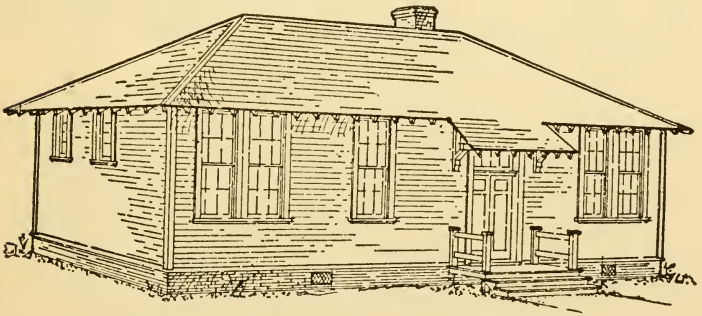
The storeroom off the fuel and furnace room is designed simply for brooms, brushes, and such material as a janitor would need. A separate entrance is marked for the janitor. This does not seem at all essential, but does make an easy method of introducing the fuel.

As noted above, this building is planned for almost the minimum activities of a rural school, and may be of service in those communities which cannot undertake to build a more elaborate structure, designed for a larger educational program.

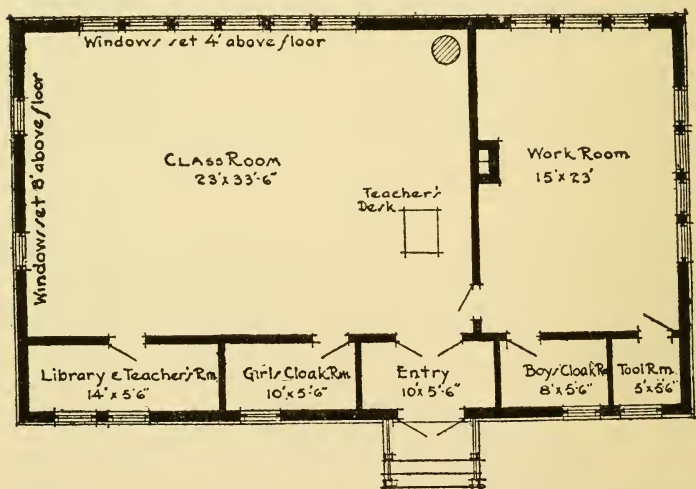
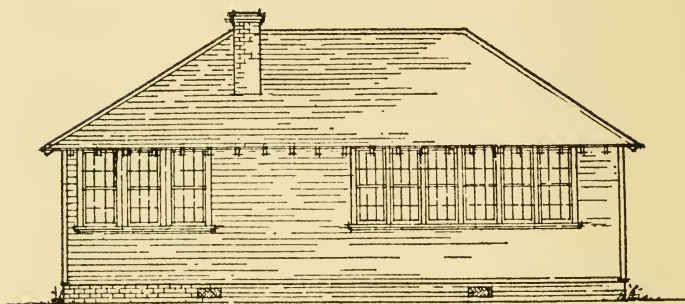
The cost of such a building ought to be very low, for it would require very little lumber, and the plan is so simple that any builder could easily construct it from the data given in the plans. These are all drawn to scale, and although they are much reduced all the working drawings could be made up from the data here given.

III.

The third plan is for the one-teacher rural school described in the following specifications, and is taken from plans drawn by Mr. J. L. Sibley, one of the rural-school supervisors of Alabama.



This building is designed to accommodate 40 to 45 pupils and, as will be seen, has a workroom, a tool-room, two cloak-rooms, and a library in addition to the classroom. The dimen-



sions of each room are shown on the floor plan. The height of the ceiling is to be 12 feet between ceiling joists, making the distance between finished floor and finished ceiling approximately 11 feet 8 inches. Other dimensions will appear in the specifications.

Specifications for One-Teacher Rural School.

The building is to be 18 inches above ground. The corner pillar to be 8 by 32 inches; other pillars to be 8 by 16 inches. Sills to be 4 by 8 inches. One sill to pass through center of the

building and be supported by 8 by 16-inch pillar. Joists to be 2 by 10 inches, set 20 inches O. C. Studs to be 2 by 4 inches, set 24 inches O. C. Ceiling joists to be 2 by 6 inches, set 24 inches O. C. Ceiling joists over teacher's library, vestibule, cloak-rooms, and tool-room to be 2 by 4 inches, set 24 inches O. C. Rafters to be 2 by 4 inches, set 24 inches O. C., and well braced by a tie across from rafter to rafter—this tie to be placed about half way of each rafter. Building to be 12 feet between ceiling joists and floor joists. Blackboards to be 4 feet wide, 30 inches from the floor, and to run around three sides of the room where there are no openings.

If no weights are to be used on windows, the window-frames are to be made so that the top sash can be let down 12 inches from the top by means of a hinged strip, which forms a part of the blind stop, and is the width and thickness of sash.

The following bill of lumber and other material required:

Lumber:

- 9 pieces, 4 by 8 inches by 18 feet—Sills.
- 4 pieces, 4 by 8 inches by 16 feet—Sills.
- 62 pieces, 2 by 10 inches by 16 feet—Floor joists.
- 26 pieces, 2 by 6 inches by 24 feet—Ceiling joists set 24 inches O.C.
- 13 pieces, 2 by 4 inches by 14 feet—Ceiling joists set 24 inches O.C.
- 24 pieces, 2 by 4 inches by 20 feet—Rafters.
- 8 pieces, 2 by 4 inches by 20 feet—Cripples.
- 8 pieces, 2 by 4 inches by 16 feet—Cripples.
- 12 pieces, 2 by 4 inches by 14 feet—Cripples.
- 8 pieces, 2 by 4 inches by 12 feet—Cripples.
- 10 pieces, 2 by 4 inches by 10 feet—Cripples.
- 8 pieces, 2 by 4 inches by 14 feet—Hips-spliced.
- 33 pieces, 1 by 6 inches by 20 feet—Ridge saddle and roof braces.
- 30 pieces, 2 by 4 inches by 16 feet—Plates.
- 100 pieces, 2 by 4 inches by 12 feet—Studding.
- 41 pieces, 4 by 4 inches by 12 feet—Studding-posts.
- 18 M No. 2 shingles.
- 1,200 square feet sheathing.
- 2,000 square feet No. 2 flooring.
- 2,850 square feet weather-boarding, $\frac{5}{8}$ by 6 inches.
- 6,850 square feet ceiling required (approximately) for each room; divide as follows: Classroom, 2,685 feet; workroom, 1,485 square feet; vestibule and teacher's library, 1,415 square feet; cloak-rooms and tool-room, 1,100 feet.
- 3 pieces, $1\frac{1}{2}$ by 12 inches by 10 feet—Treads.
- 3 pieces, 1 by 7 inches by 10 feet—Risers.

1 piece, 2 by 12 inches by 14 feet—Stringers.

Windows:

18 windows 10 by 18 inches—12 lights and frame complete.

2 single sash 10 by 18 inches—12 lights and frame complete.

Doors:

1 door 3 by 7 feet by $1\frac{1}{8}$ inches—No. 2 and frame complete.

4 doors 2 feet 8 inches by 6 feet 8 inches by $1\frac{1}{8}$ inches—No. 2 and frame complete.

1 double door 5 by 7 feet by $1\frac{3}{8}$ inches—No. 2 and frame complete.

900 feet of quarter round.

Two 6-inch T. C. thimbles.

Bricks and Lime: 1,100 for chimney; 540 for pillars; 1,200 underpinning; 4 barrels lime.

Nails: One keg 20d.; $1\frac{1}{2}$ kegs 8d.; 2 kegs 6d.; 60 pounds shingle; 20 pounds finishing.

Locks: 6 rim locks; 1 front-door lock.

Hinges: 7 pairs hinges, $3\frac{1}{2}$ by $3\frac{1}{2}$ inches, loose pin; 3 pairs hinges, for single sash.

Transom Lifts: 3 transom lifts—one for each single sash.

Paint for house—outside and inside door-frames: 100 pounds white lead, 10 gallons linseed oil, 2 pounds lampblack.

Classroom: Walls, 4 packages kalsomine—light buff; ceiling, 2 packages kalsomine—cream.

Workroom: Walls, $1\frac{1}{2}$ packages kalsomine—light buff; ceiling, 1 package kalsomine—cream.

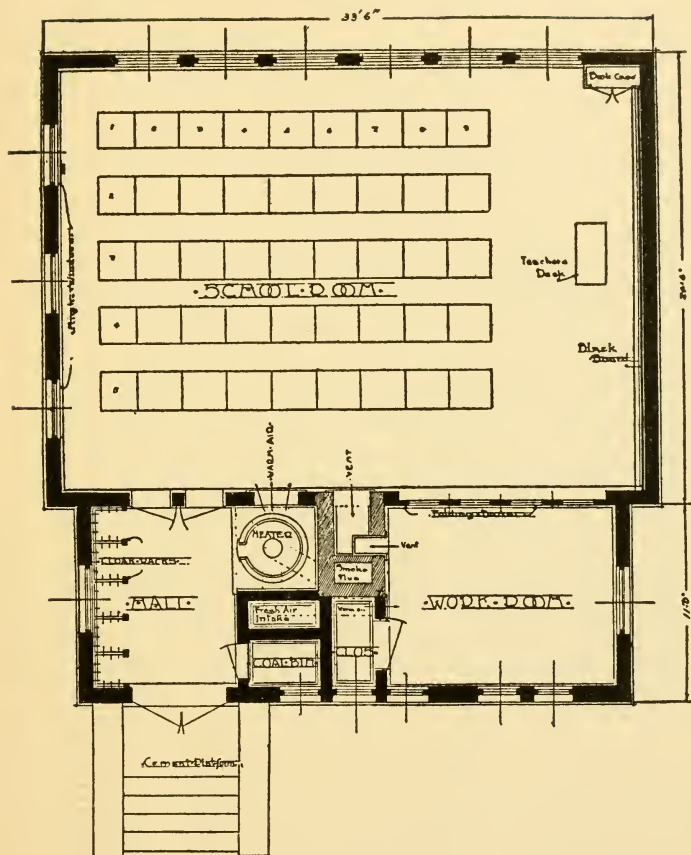
Teacher's library, cloak-room, and vestibule: Walls, 3 packages kalsomine—light buff; ceiling, 1 package kalsomine—cream.

The above plans and specifications by Sibley are of special value, because they may be taken at once to any lumber yard and the lumberman can give a definite estimate of the cost of construction. Furthermore, no expense will be introduced for architect's fees or for plans to be used by the contractors.

IV.

The fourth plan represents a one-teacher rural school, designed by J. H. Felt & Co., architects, Kansas City, Missouri.

These plans anticipate either the construction of a new building or the remodeling of an old building. For example, if an old building in the form of a classroom without any of the conveniences attached, were enlarged by adding the hall with its attached cloak-racks, the workroom, the niche for the heater,



and the various other elements in the front of the building, by rearranging the windows, and changing the doors, it would be an easy matter to make over an insanitary and inconvenient one-room building into this hygienic and modern structure.

There are certain features of this building worthy of attention: The niche in which the heater is placed could be made fireproof at little expense. The fuel need not be carried into the house. The exits for the foul air brought into contact with the chimney, and in this way the movement of the air is hastened. The work-

room is shown with folding doors between it and the main schoolroom. These doors may be left open, or they may be closed in case the work within this room disturbs the pupils in the classroom. A blackboard may be placed under the high windows in the rear, as well as on the wall in the front of the schoolroom. Further, if the windows on the right side of the workroom were placed higher, say 7 feet above the floor, a blackboard could be introduced across the entire end of this room, which would seem desirable. If the windows on the left of the classroom were all moved back nearer the left rear corner, as the children sit at their desks, better light would be obtained, because less of it would be in the children's eyes.

This plan could be improved somewhat by slight reconstruction, the result of which should be a building with a single workroom for all, one cloak-room, a teacher's room, a library, and a classroom. If a basement could be constructed under this building, it could be used for the furnace and such other conveniences as community conditions would warrant. Without a basement, a jacketed stove could be set as indicated. A separate flue should be constructed in the workroom to furnish opportunity to use a small range for domestic science work. If it seemed best to separate the workroom into two parts, a partition could be erected between the door and the flue in the workroom.

APPENDIX B.

MINIMUM SANITARY REQUIREMENTS FOR RURAL SCHOOLS.

THE following are the "Minimum Sanitary Requirements for Rural Schools," proposed by the Joint Committees on Health Problems in Education of the National Council of Education of the National Education Association and of the American Medical Association.

It is the desire and purpose of this committee to help establish a standard of fundamental health essentials in the rural school and its material equipment, so that attainment of this minimum standard may be demanded by educational authorities and by public opinion of every rural school thruout the country.

Possession of the minimum sanitary requirements should be absolutely necessary to the pride and self-respect of the community and to the sanction and approval of county, state, and other supervising and interested official or social agencies.

Neglect of anything essential for health in construction, equipment, and care of the rural-school plant is at least an educational sin of omission and may reasonably be considered a social and civic crime or misdemeanor.

The country school should be as sanitary and wholesome in all essential particulars as the best home in the community. Further, it should be pleasing and attractive in appearance, in furnishings, and in surroundings, so that the community as a whole may be proud of it; so that the pupils and teacher may take pleasure in attending school and in caring for and improving it.

I. Location and Surroundings.

The school should be located in as healthful a place as exists in the community.

Noise and all other objectionable factors should be eliminated from the immediate environment of the rural school.

Accessibility.—Not more than two miles from the most distant home, if the children walk. Not more than six miles from the most distant home, if school wagons are provided.

Drainage.—School ground must be well drained and as dry as possible. If natural drainage is not adequate, artificial sub-soil drainage should be provided.

Soil.—As every rural-school ground should have trees, shrubs, and a real garden or experimental farm, the soil of the school grounds should be fertile and tillable. Rock and clay soil should always be avoided. If the soil is muddy when wet, a good layer of fine sand and fine gravel should be used to make the children's playground as useful as possible in all kinds of weather.

Size of school grounds.—For the schoolhouse and playground, at least three acres are required.¹

Playground is not a luxury but a necessity. A school without a playground is an educational deformity and presents a gross injustice to childhood.

Arrangement of grounds.—The school grounds should have trees, plants, and shrubs grouped with artistic effect but without interfering with the children's playground.

II. Schoolhouse.

The schoolhouse should be made as nearly fireproof as possible. Doors should always open outward and the main door should have a covered entrance; a separate fuel-room should be provided, also separate cloak-rooms for boys and girls.

A basement or cellar, if provided, should be well ventilated and absolutely dry.

The one-teacher country school should contain, in addition to the classroom:

(a) A small entrance hall, not less than 6 by 8 feet.

(b) A small retiring-room, not less than 8 by 10 feet, to be

¹If the rural-school plan includes the additional features (a teacher's home, a garden, and an experimental farm) which are already in some progressive states accepted and established as educational essentials, then the school grounds should contain 8 to 10 acres.

used as an emergency room in case of illness or accident, for a teacher's conference room, for school library, and for health inspection, a feature now being added to the work of the rural school.

(c) A small room, not less than 8 by 10 feet, for a workshop, for instruction in cooking, and for the preparation of refreshments when the school is used, as it should be, for social purposes.

Classroom should be not less than 30 feet long, 20 feet wide, and 12 feet high. This will provide space enough for a maximum of thirty pupils.

III. *Ventilation and Heating.*

The school should always receive fresh air coming directly from out-of-doors in one of the following arrangements:

(a) Thru wide open windows in mild weather.

(b) Thru window-board ventilators under all other conditions, except when, with furnace or jacketed stove, special and adequate inlets and exits for air are provided.

Heating.—Unless furnace or some other basement system of heating is installed, at least a properly *jacketed stove* is required. (No unjacketed stove should be tolerated in any school.)

The jacketed stove should have a direct fresh air inlet about 12 inches square, opening thru the wall of the schoolhouse into the jacket against the middle or hottest part of the stove.

The exit for foul air should be thru an opening at least 16 inches square on the wall near the floor, on the same side of the room as the stove is located.

A fireplace with flue adjoining the stove chimney makes a good exit for bad air.¹

Temperature.—Every school should have a thermometer, and the temperature in cold weather should be kept between 66 and 68 degrees Fahrenheit.

¹The following arrangement for ventilating-flue is required in one western state: A circular sheet-steel smoke-flue, 8 inches in diameter, passing up in center of ventilating-shift (foul-air exit) 20 inches square in the clear.

IV. Lighting.

The schoolroom should receive an abundance of light, sufficient for darkest days, with all parts of the room adequately illuminated.

The area of glass in windows should be from one-fifth to one-fourth of the floor area.

The best arrangement, according to present ideas, is to have the light come only from the left side of the pupils and from the long wall of the classroom. Windows may be allowed on rear as well as on the left side. High windows not less than seven feet from the floor may be permitted on the right side as an aid to cross-ventilation, but not for lighting.

There should be no trees or shrubbery near the schoolhouse which will interfere with the lighting of the classroom.

The school building should so face with reference to the windows that the schoolroom will receive the direct sunlight at some time during the day.

Shades should be provided at tops and bottoms of windows with the dark shades at top, so that light may be properly controlled on bright days.

Schoolroom colors.—The best colors for the schoolroom in relation to lighting are:

Ceiling: white or light cream.

Walls: light gray-green.

Blackboards: black.

V. Cleanliness.

The schoolhouse and surroundings should be kept as clean as a good housekeeper keeps her home.

(a) No dry sweeping or dusting should be allowed.

(b) Floors and furniture should be cleaned with damp sweepers and oily cloths.¹

(c) Scrubbing and airing are better than any form of fumigation.

¹Sweeping compounds in moist-proof containers may be obtained in the markets.

VI. Drinking-Water.

Drinking-water should be available for every pupil at any time of day which does not interfere with the school program.

Every rural school should have a sanitary drinking-fountain located just inside or outside the schoolhouse entrance.

Drinking-water should come from a safe source. Its purity should be certified by an examination by the state board of health or by some other equally reliable authority.

A common drinking-cup is always dangerous and should never be tolerated.

Individual drinking-cups are theoretically, and, in some conditions, all right, but practical experience has proven that in schools, individual cups, to be used more than once, are unsatisfactory and unhygienic. Therefore, they are not to be advocated or approved for any school.

Sufficient pressure for running water for drinking-fountain or other uses in the rural school may always be provided from any source without excessive expense by a storage tank or by pressure tank with force-pump.

VII. Water for Washing.

Children in all schools should have facilities for washing hands available at least:

- (a) Always after the use of the toilet.
- (b) Always before eating.
- (c) Frequently after playing outdoors, writing on blackboard, or doing other forms of handwork connected with the school.

Individual clean towels should always be used.

Paper towels are the cheapest and most practicable.

The common towel is as dangerous to health as the common drinking-cup.

VIII. Furniture.

School seats and desks should be hygienic in type and adjusted to the size and needs of growing children. Seats and desks should be individual—separate—adjustable—clean.

Books and other materials of instruction should be not only sanitary, but attractive enough to stimulate a wholesome response from the pupils.

IX. Toilets and Privies.

Toilets and privies should be sanitary in location, in construction, and in maintenance.

(a) If water-carriage system for sewage is available, separate toilets for boys and girls should be located in the schoolhouse, with separate entrances on different sides or corners of the school building.

(b) If there is no water-carriage system, separate privies should be located at least fifty feet in the different directions from the schoolhouse, with entrances well screened.

(c) The privy should be rainproof, well ventilated, and one of the following types:

1. Dry earth closet.
2. Septic tank container.
3. With a water-tight vault or box.

All containers of excreta should be water-tight, thoroly screened against insects, and easily emptied and cleaned at frequent intervals.

No cesspool should be used unless it is water-tight and easily emptied and cleaned.

All excreta should be either burned, buried, treated by sub-soil drainage, reduced by septic tank treatment, or properly distributed on tilled land as fertilizer.

X. *All Schoolhouses and Privies should be Thoroly and Effectively Screened Against Flies and Mosquitoes.*

XI. *Schoolhouses and Outhouses should be Absolutely Free from Defacing and Obscene Marks.*

XII. *Buildings should be Kept in Good Repair and with Whole Windows.*

STANDARDS.

Provision and equipment of adequate school plant depends on intelligence, interest, pride, and financial ability of community.

Maintenance of a clean and sanitary school plant depends on efficient housekeeping and on interest and willing co-operation of pupils.

No community should be satisfied by the minimum requirements indicated in the foregoing, but every country school should be so attractive and well equipped as to minister with some abundance of satisfaction to the physical, mental, æsthetic, social, and moral well-being of those who provide it, who own it, who use it, and who enjoy it.

Present Conditions.

Among the reasons which explain the present deplorable conditions of rural schoolhouses, the following are prominent:

(a) Low architectural and sanitary standards in rural regions generally thruout the country.

(b) Ignorance regarding the physical, mental, social, and moral effects of unattractive and insanitary buildings on the children and on the community as a whole.

(c) False economy expressed by local school boards in failure to vote enough money to build and maintain suitable school buildings.

(d) Lack of supervision or assistance by the state which is usually necessary to maintain desirable standards.

Improvement.

How shall the rural schools thruout this country be improved up to a reasonably satisfactory standard?

I. By a popular campaign of education regarding the conditions desirable and possible for the country school. Such a campaign would profitably include many or most of the following:

(a) The United States Bureau of Education and state departments of education should furnish plans and instructions for construction and equipment of rural-school buildings.

The United States Bureau of Education in Washington is already supplying on request valuable help of this kind, and a few state departments of education are demonstrating what

may be done by supervision and support which aid without controlling.

(b) State departments of education should supply supervision of rural schools and should have power:

(1) To condemn insanitary and wholly unsuitable buildings.

(2) To give state aid to rural schools when the local authorities fulfil certain desirable and reasonable conditions.

(c) Ideas and standards of school sanitation should be inculcated in minds of local school patrons and school authorities who control school funds and who administer the affairs of the schools. Public lectures on health topics should be provided in the schoolhouse and elsewhere.

(d) Effective school health courses should be introduced in normal schools and teachers' institutes.

Better education of rural-school teachers, county superintendents, rural-school supervisors in the principles and practice of school hygiene and sanitation should be assured.

(e) Interest in, and enthusiasm for, the improvement and care of all features of the school and its surroundings which affect health and happiness should be inspired in the minds of rural-school pupils.

Organization such as "Pupils' Board of Health," "Civic Leagues," or "Health Militias," may profitably be formed among pupils.

(f) Organizations like "The Granges," women's clubs, county medical societies, and other groups so situated that they may further the cause of health and efficiency should co-operate with the rural school.

(g) Attractive but reliable health information should be furnished abundantly by the public press.

II. Emulation and competition should be recognized and rewarded in ways that will promote wholesomely and progressively the welfare of the community as a whole.

Ten Sanitary Commandments for Rural Schools.

In every school which may be considered passably sanitary the following conditions shall obtain:

1. Heating by at least a properly jacketed stove. (No un-

jacketed stove to be allowed.) Ventilation by direct outdoor air inlets and by adequate and direct foul-air outlets.

2. Lighting from left side of room (or from left and rear) thru window space at least one-fifth of floor space in area.

3. Cleanliness of school as good as in the home of a careful housekeeper.

4. Furniture sanitary in kind, and easily and frequently cleaned. Seats and desks adjustable and hygienic in type.

5. Drinking-water from a pure source provided by a sanitary drinking-fountain.

6. Facilities for washing hands, and individual towels.

7. Toilets and privies sanitary in type and in care (with no cesspools unless water-tight) and no neglected privy boxes or vaults.

8. Flies and mosquitoes excluded by thoro screening of school-house and toilets.

9. Obscene and defacing marks absolutely absent from schoolhouse and privies.

10. Playground of adequate size for every rural school.

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